

Curriculum Vitae
Kang Zhang, M.D., Ph.D.

Last Updated: 9/19/2015

I. EDUCATION

A. Baccalaureate Degree

1980 - 1984 BS, Sichuan University, Sichuan, China, Biochemistry

B. Advanced Degree

1991 - 1995 MD, Harvard University Medical School - M.I.T., Health Sciences and Technology, Cambridge, MA, Medicine

1985 - 1991 PhD, Harvard University, Cambridge, MA, Genetics

C. Resident/Fellowship Training

2002 - 2003 FELLOW, University of Utah School of Medicine, Salt Lake City, UT, Vitreoretinal Diseases and Surgery

1996 - 1999 RESIDENT, Johns Hopkins University, Wilmer Eye Institute, Baltimore, MD, Ophthalmology

1995 - 1996 INTERN, Presbyterian/St. Lukes Hospital, Denver, CO, Medicine

II. BOARD CERTIFICATIONS

American Board of Ophthalmology (Ophthal), 05/13/2001, certified; 01/01/2012, recertified
National Board of Medical Examiners, 01/01/1996, Certified

III. CURRENT MEDICAL LICENSES/CERTIFICATIONS

State License (CA)

State License (UT)

CS (UT)

DEA Certificate (CA)

State License (OH)

State License (MD)

IV. ACADEMIC HISTORY

Johns Hopkins University

Wilmer Eye Institute

Instructor, 07/01/1999-09/30/00

Cleveland Clinic Foundation

Cole Eye Institute

Assistant Staff, 10/01/2000-02/29/02

University of Utah

Ophthalmology/Visual Sciences

Tenure Track-Assistant Professor, 03/01/2002-6/30/06

Promotion, Associate Professor with tenure, 07/01/2006

University of California San Diego

Department of Ophthalmology, School of Medicine

Full professor with tenure, 04/01/2008-present

V. PROFESSIONAL EXPERIENCE

A. Full Time Positions

- 2014 – pres Co-Director, Biomaterials and Tissue Engineering Center, Institute of Engineering in Medicine, University of California San Diego, La Jolla, CA
- 2009 – 2013 Founding Director, Institute for Genomic Medicine, University of California San Diego, La Jolla, CA
- 2008 – pres Chief of Ophthalmic genetics, Department of Ophthalmology, University of California San Diego, La Jolla, CA
- 2008 – pres Professor with tenure, University of California San Diego, La Jolla, CA
- 2008 -- pres Attending Physician, Shiley Eye Center and UCSD, La Jolla, CA
- 2008 – pres Attending Staff Physician, Veteran's Administration Medical Center, San Diego, CA
- 2006 – 2008 Associate Professor with tenure, University of Utah, Department of Ophthalmology and Visual Science, John Moran Eye Center, Salt Lake City, UT
- 2002 – 2008 Investigator, University of Utah, Eccles Institute of Human Genetics, Program in Human Molecular Biology & Genetics, Salt Lake City, UT
- 2002 – 2006 Attending Staff Physician, Veteran's Administration Medical Center, Salt Lake City, UT
- 2002 -2006 Assistant Professor, University of Utah, Department of Ophthalmology and Visual Science, John Moran Eye Center, Salt Lake City, UT
- 2000 -2002 Assistant staff, Cleveland Clinic Foundation, Lerner Research Institute, Cleveland, OH
- 1999 -2000 Instructor, Johns Hopkins University, School of Medicine, Wilmer Eye Institute, Baltimore, MD
- 1999 -2000 Attending Physician, Johns Hopkins Hospital, Baltimore, MD

B. Editorial Experience

- 2006-2010 Chief Medical Editor, Ophthalmology News and World Report, China Edition. (circulation: 40,000+ ophthalmologists in Asia)
- 2012-present Associated Editor-in –Chief, Chinese Journal of Retinal Diseases
- 2012-present Consulting Editor, Journal of Clinical Investigation
- 2013-2018 Editorial board, Journal of Biological Chemistry
- 2013-2016 Associate Editor, Current Molecular Medicine

C. Reviewer Experience

- Referee for American Journal of Human Genetics
Referee for American Journal of Medical Genetics
Referee for American Journal of Pathology
Referee for Archives of Ophthalmology
Referee for Biochemical Journal
Referee for BMC Genomics
Referee for Developmental Dynamics
Referee for Experimental Eye Research
Referee for Expert Opinion in Ophthalmology
Referee for Genome Biology
Referee for Human Genetics
Referee for Human Molecular Genetics
Referee for Human Gene Therapy
Referee for International Journal of Biologic Science

Referee for Investigative Ophthalmology and Visual Science
Referee for Journal of Biological Chemistry
Referee for Journal of Cataract and Refractive Surgery
Referee for Journal of Clinical Investigation
Referee for Journal of Lipid Research
Referee for Journal of Medical Genetics
Referee for Journal of Neurology
Referee for Molecular Therapy
Referee for Molecular Vision
Referee for Nature
Referee for Nature Genetics
Referee for Nature Communications
Referee for Neuroscience
Referee for New England Journal of Medicine
Referee for Ophthalmic Genetics
Referee for Ophthalmology
Referee for PNAS
Referee for PNAS Plus
Referee for PLoS Biology
Referee for PLoS Medicine
Referee for PLoS Genetics
Referee for PLoS One
Referee for Progress in Retina and Eye Research
Referee for Retina
Referee for Science
Referee for Trend in Genetics
Referee for Trend in Molecular Medicine

VI. RESEARCH AWARDS

Generation of iPS lines for blinding eye diseases; 8/01/2013-7/30/2015, California Institute for Regenerative Medicine. Direct Costs: \$630,000. Total costs: \$ 1,030,000. Principal Investigator.

Layer-by-Layer Bioprinting of Stem Cells for Retinal Tissue Regeneration

W81XWH-14-1-0522, 09/30/2014-09/29/2016 DoD

Major Goals: To investigate a Layer-by-Layer (LBL) bioprinting process using stem cells for retinal tissue regeneration. (Chen & Zhang) PI

Regeneration of Retinal Neurons by Chemically Induced Reprogramming of Muller Glia- R01 EY021374-01, 9/30/2010-9/29/2015, NIH Director's Transformative R01 Program (obtained with a perfect review score 10), Direct Costs: \$650,000 per year. Total costs: \$ 900,000 per year, Contact Principal Investigator.

Limbal Stem Cell Fate and Corneal Enhancers. R01EY021374, 03/01/2015-02/29/2020. Direct Costs: \$310,000 per year. Total costs: \$483,000 per year. Contact Principal Investigator.

Biomaterial enhancement of stem cell transplant efficacy for macular degeneration. RO1 EY024134, 2/1/2014-1/31/2017. National Eye

Institute, Direct Costs: \$250,000 per year. Total costs: \$375,000 per year. Co-Principal Investigator.

ELOVL4 and Retinal Disease. – To characterize ELOVL4 biochemical properties and macular degeneration mechanism. R01 EY014428 05/01/2002 - 04/30/2013. National Eye Institute, Direct Costs: \$250,000 per year. Total costs: \$375,000 per year. Principal Investigator.

Genetics and Functional Studies of Age-Related Macular Degeneration- To characterize chromosome 10q variants and functions in age related macular degeneration. 1R01EY018660-01A1. 9/30/2008 - 8/30/2014. National Eye Institute, Direct Costs: \$225,000 per year. Total costs: \$350,000 per year. Principal Investigator.

Regulation of the Hippo pathway and its role in uveal melanoma-To study the regulation of the Hippo pathway and its role in uveal melanoma. R01 EY022611 (PI: Guan, Kun-Liang) 09/01/2012 – 08/31/2017. National Eye Institute, Direct Costs: \$250,000 per year. Total costs: \$350,000 per year. (K. Zhang, Co-Investigator).

Genetic Susceptibility for Development of Proliferative Diabetic Retinopathy- To identify genetic variants that predispose to diabetic retinopathy. 1R01EY019270, 9/01/09-6/31/2012. National Eye Institute, Direct Costs: \$225,000 per year. Total costs: \$412,000 per year. Co- PI

HTRA1 and age related macular degeneration. - To investigate mechanism of macular degeneration due to HTRA1. VA Merit Award. 9/1/2008 - 8/30/2017. Direct Costs: \$150,000 per year. Principal Investigator.

Genetics of Macular Degeneration - To clone and characterize the disease gene for North Carolina macular dystrophy. RO1EY16698. 11/30/2003 - 07/30/2009. National Eye Institute, Direct Costs: \$385,000 per year. Total costs: \$580,000 per year. Principal Investigator.

Eye Targeted Gene Therapy for Cystinosis in the Eye- To test the hypothesis that injection of self-complementary adeno-associated virus expressing a functional CTNS gene will prevent complications and progression of defects of cystinosis in the eye when delivered very early in the course and ameliorate the eye disease when administered to older patients.

Cystinosis Research Foundation, 9/1/09-8/31/11, \$321,346. Role: PI

Define novel genes for diabetic microvascular complications. –To use genetic association studies to identify genes for diabetic microvascular complications. Burroughs Wellcome Fund Clinical Scientist Award in Translational Research. 7/1/08-6/30/2013. Direct costs: \$150,000 per year Principal Investigator.

Wynn Center for the Study of Retinal Degeneration, University of Utah (Wolfgang Baehr) 07/01/2005 - 06/30/2010. Foundation Fighting Blindness, Direct Costs: \$45,000 per year. Total costs: \$45,000 per year. Module II: Molecular genetics. Principal Investigator.

Gene Identification for Age-Related Macular Degeneration. 07/01/2005 - 06/30/2006. Knights Templar Eye Research Grant for Lejin Wang: Genetic Linkage Mapping of Leber's Congenital Amaurosis. 06/01/2005 - 06/30/2006. Knight's Templar Eye Foundation, Direct Costs: \$30,000. Total costs: \$30,000. Principal Investigator.

Fellowship for Nathan Faulkner: Genetic Linkage Study of a Family with Marfan Syndrome. 05/01/2005 - 09/30/2005. Fight for Sight, Inc., Direct Costs: \$2,100. Total costs: \$2,100. Principal Investigator.

Pharmacological intervention of retinal degeneration in ELOVL4 transgenic mice to assess drugs for retinal degeneration intervention. FR-PT-0505-0237 01/01/2005 - 12/31/2006. Foundation Fighting Blindness, Direct Costs: \$119,000. Total costs: \$119,000. Principal Investigator.

Gene Identification for Juvenile Retinal Dystrophy. 11/01/2003 - 10/31/2006. Macula Vision Research Foundation and Ronald McDonald House Charities, Direct Costs: \$80,000 per year. Total costs: \$80,000 per year. Principal Investigator.

Gene Mapping for Stargardt's Macular Degeneration. 04/01/2002 - 03/31/2003. American Health Assistance Foundation, Direct Costs: \$50,000. Total costs: \$50,000. Principal Investigator.

Macular Degeneration Genetics. 49580-001.45 04/01/2002 - 03/31/2004. Karl Kirchgessner Foundation, Direct Costs: \$50,000; Total costs: \$50,000. Principal Investigator.

Gene Identification for Macular Degeneration. 04/01/2002 - 07/31/2005. Ruth and Milton Steinbach Fund, Direct Costs: \$100,000 per year; Total costs: \$100,000 per year. Principal Investigator.

Mentored Clinician Scientist Award K23EY00401. Project: "Cloning a gene for dominant Stargardt's disease"; Goal: to clone a gene for dominant Stargardt's disease.

08/01/1999 - 07/30/2004. National Eye Institute, Direct Costs: \$175,000 per year. Total costs: \$210,000. Principal Investigator.

Eye Research Award 01/01/1996 - 12/31/1996. Knight's Templar Eye Foundation, Direct Costs: \$30,000. Total costs: \$30,000. Principal Investigator.

VII. CLINICAL TRIALS

Anti-VEGF Phase III Clinical Trial for predominantly classic choroidal neovascularization of age-related macular degeneration (ANCHOR). 06/01/2003 - 12/31/2005. Genentech Inc, Direct Costs: \$633,694. Total costs: \$788,160. University of Utah, Principal Investigator.

Anti-VEGF Phase III Clinical Trial for minimally classic and completely occult choroidal neovascularization of age-related macular degeneration (MARINA). 08/01/2003 - 03/31/2006. Genentech Inc, Direct Costs: \$686,082. Total costs: \$838,321. University of Utah, Principal Investigator.

Anti-VEGF aptamer for choroidal neovascularization from age-related macular degeneration sponsored by EyeTech pharmaceuticals and Pfizer 07/01/2001 - 07/31/2004. Eyetech Pharmaceuticals, Inc., Direct Costs: \$142,647. Total costs: \$180,271. Co-Investigator.

A Multicenter, Randomized, Double-Masked, Controlled Study to Evaluate Intravitreal Fluocinolone Acetonide (.5, 2, or 6 mg) Implant in Patients with Non-Infectious Uveitis Affecting the Posterior Segment of the Eye. BLP 415-001 02/01/2001 - 02/28/2005. Bausch & Lomb, Direct Costs: \$164,165. Total costs: \$195,498. Co-Investigator.

An open-label, multicenter extension study to evaluate the safety and tolerability of ranibizumab in subjects with choroidal neovascularization (CNV) secondary to age-related macular degeneration (AMD) who have completed the treatment phase of III Anchor or Marina trials. 09/01/2005 - 2009. Genentech Inc, Direct Costs: \$100,500. University of Utah Principal Investigator.

A Six-Month, Phase III, Multi-centered, Masked, Randomized, Sham-Controlled Trial (With Six-Month Open Label Extension) To Assess the Safety and Efficacy of 700 microgram and 350 microgram Dexamethasone Posterior Segment Drug Delivery System (DEX PSDDS) Applicator System in the Treatment of Patients with Macular Edema Following Central Retinal Vein Occlusion or Branch Retinal Vein Occlusion. 04/01/2002 - . Allergan Inc, Co-Investigator.

An Evaluation of Efficacy and Safety of Posterior Juxtascleral Injections of Anecortave Acetate (15 mm) vs. Visudyne Patients with Subfoveal Exudative Age-Related Macular Degeneration (AMD). 04/01/2002 - 03/31/2006. Alcon Laboratories, Co-Investigator.

A Phase II Study of Implants of Encapsulated Human NTC-201 Cells Releasing Ciliary Neurotrophic Factor (CNTF), in Participants with Visual Acuity Impairment Associated with Atrophic Macular Degeneration (CNTF2). 08/01/2007-pres, Neurotech. Direct Costs: \$300,165; Principal Investigator and study chair.

Phase II/III Study of Encapsulated Human NTC-201 Cell Implants Releasing Ciliary Neurotrophic Factor (CNTF) for Participants with Retinitis Pigmentosa Using Visual Field Sensitivity as the Primary Outcome. 08/01/2007-08/01/2008, Neurotech. Direct Costs: \$90,000. University of Utah, Principal Investigator.

Clinical Assessment of Age-related Macular Degeneration Patients After Early Diagnosis and Treatment With Ranibizumab (COMPASS)

April 2011 - present

A phase II/III study to determine if patients treated with monthly ranibizumab within 4 months after diagnosis of exudative age-related macular degeneration can return to their baseline pre-disease visual acuity. Principal Investigator

Seven Year Update of Macular Degeneration Patients (SEVEN UP)

October 2010 - present

The purpose of this study is to assess long term vision outcomes and disease status in patients with age-related macular degeneration previously treated with ranibizumab as participants in the Phase III ANCHOR and MARINA Studies and the HORIZON Study. Co-Investigator

Ranibizumab for Edema of the Macula in Diabetes: Protocol 3 With High Dose - the READ 3 Study

April 2010 - present

A phase II study investigating the safety, tolerability, bioactivity, and dose response of two different dosages (0.5 mg and 2.0 mg) of ranibizumab in patients with diabetic macular edema (DME). Co-Investigator

HARBOR study

August 2009 – Nov. 2012

A phase II study to evaluate the safety and efficacy of 2.0 mg and 0.5 mg intravitreal ranibizumab administered monthly or as-needed in patients with subfoveal neovascular age-related macular degeneration (AMD). Genentech Inc, Direct Costs: \$679,694. Total costs: \$834,160. Principal Investigator

Study Evaluating Genotypes While Using Lucentis 2 (SEAGUL2)

May 2008 to present

A phase IV study investigating whether the efficacy of ranibizumab treatment for exudative-age related macular degeneration is associated with VEGF polymorphisms. Genentech. Direct Costs: \$600,500. Principal Investigator

Genetic Assessment of Early to Late Macular Degeneration Study 2 (GALLEY2)

April 2008 – present

An observational study to determine if HTRA1 and CFH polymorphisms are associated with an accelerated progression to advanced age-related macular degeneration (AMD) in patients with early AMD (soft confluent drusen>120 microns) in the study eye, and with either early or advanced AMD in the non-study eye. Genentech. Direct Costs: \$600,000. Principal Investigator

VIII. SCHOLASTIC HONORS

Clinical Advancement & Recognition of Excellence in Service, UCSD (2012).

Fellow, Association of American Physicians (2011).

Fellow, American Association for the Advancement of Science (2011).

American's Top Ophthalmologists, Consumer's research Council of America (2011).

NIH Director's Transformative R01 Program (with a perfect review score 10, 2010)

Senior Investigator Award, Research to Prevent Blindness (2010)

Outstanding Achievement Award, Chinese Ophthalmological Society, 2009

Chinese National Endowed Visiting Professorship (Chang Jiang Scholar Program), 2009.

Burroughs Wellcome Fund Clinical Scientist Award in Translational Research, 2008

Inaugural Resident Research Mentor Award, Moran Eye Center, University of Utah, 2008

Lew R. Wasserman Merit Award, Research to Prevent Blindness, 2006

Macula Society membership, 2006

American Society of Clinical Investigation membership, 2006

Macular Vision Research Award, 2002

Ruth Steinbach Fund for Macular Degeneration, 2001

Charles Schepens Award for Excellence in Retina Research. 2001

Johns Hopkins Medical Institutions Clinician Scientist Award. 1999

Stark Research Award in Ophthalmology, Wilmer Eye Institute, Johns Hopkins University. 1998

Association of University Professors of Ophthalmology (AUPO) Inaugural Residents and

Fellow's Research Forum, runner-up. 1997

Knights Templar Eye Foundation Research Award. 1996

Magna Cum Laude, Harvard Medical School. 1995

First Bower Award for Research on Macular Degeneration Wills Eye Hospital, Philadelphia. 1993

Reed Scholar, M.I.T.. 1993 -1994

Johnson & Johnson Scholar, M.I.T.. 1991 -1992

Chinese National Scholarship for Graduate Studies Abroad. 1984

Highest Scholarships and High Distinction in Biochemistry, Sichuan Univ. 1980 -1984

IX. ADMINISTRATIVE EXPERIENCE

A. Grant Review Committee/Study Section

2013-present Reviewer, New York Stem Cell Program

2013- present Reviewer, Penn Stem Cell Program
2012-present Reviewer, Chinese Academy of Science Strategic Stem Cell Program
2009-present Ad Hoc Reviewer, Natural Science foundation of China
2008-present Ad Hoc Reviewer, ChangJiang Scholars Program, Ministry of Education, China
2009-present Ad Hoc Reviewer Reviewer, National Basic Research Program, China
2007-present Ad Hoc Reviewer, Biology and Disease of the Posterior Eye Study Section (VISC), NIH
2006-present Ad Hoc Reviewer, Anterior Eye Disease Study Section (VISA), NIH
2007-present Distinguished Reviewer's panel, National Eye Institute, NIH
2009-present Ad Hoc Reviewer, diabetic complications section, Juvenile Diabetes research Foundation
2006-Present Ad Hoc Reviewer, research grants and fellowships, Wellcome Trust, UK
2006-Present Ad Hoc Reviewer, research grants and fellowships, Medical Research Council, UK
2004-present Ad Hoc Reviewer, Neurobiology C Study Section, Medical Research Service, Department of Veterans Affairs Administration
2002-present Ad Hoc Reviewer, research grants, Foundation Fighting Blindness, USA
2009-2010 ARRA grant panels
2007 Special emphasis panel, Gene environment Initiative, Nat Human Genome Research Institute, NIH
2007 CIDR Access Review Panel, National Human Genome Research Institute, NIH
2007 Ad Hoc Reviewer, research grants, Macular Disease Society, UK
2003 Ad Hoc Reviewer, research grants, Foundation Fighting Blindness, Canada
2001 Ad Hoc Reviewer, postdoctoral training grant, Research into Aging, UK
2000 Ad Hoc Reviewer, Medical Research Service, Department of Veterans Affairs Administration

X. PROFESSIONAL COMMUNITY ACTIVITIES

2015 Co-organizer, International Society of Ocular Cell Biology Meeting
2014 Co-organizer, International Masters of Retina
2014 Co-organizer, Nature-Biocon Symposium
2014 Co-organizer, Nature-China Symposium
2012-pres Member, Harvard Medical School Dean's Genetics Advisory Council.
2011-2013 Founding President, American Chinese Association for Research in Vision and Ophthalmology
2002-pres Medical Advisory Board, Genentech
2012-pre Medical Advisory Board, Thrombogenics
2008-pres Scientific Advisory Board, Lifeboat Foundation
2006-pres Scientific Advisory Board, Acucela
2010-pres co-organizer, International Masters of Retina
2011-pres Program Committee, Annual Meeting of Chinese Ophthalmological Society
2012 Organizer, the Second World Wide Chinese Ophthalmologist Retina Summit
2012 Co-organizer, Nature-UCSD Institute for Genomic Medicine Symposium
2010 Organizer, Genetics of Diabetic Retinopathy Workshop, San Diego, CA
2009 Retina Subspecialty Day, Moderator, AAO Annual Meeting
2009 Organizer, Shanghai International Ophthalmology Symposium
2006 Co-Organizer, Genetics of Diabetic Retinopathy Workshop, Salt Lake City, UT
2008 Organizer, Genetics of Diabetic Retinopathy Workshop, Salt Lake City, UT

2007	Organizing Committee member, International Forum of Vitreoretinal Diseases and Surgery, China
2007	Section Chair, Animal Model of Age-Related macular Degeneration. PreARVO Meeting 2007 on Retinal Degeneration and gene Therapy, FL.
2007	Organizer, Shanghai International Ophthalmology Symposium
2006	Organizer, "Snowbird Neuroscience Symposium 2006"
2005	Co-organizer, "Genetics of Molecular Biology of Retinal Diseases", ancillary meeting of Annual Meeting of American Society of Human Genetics, UT.
1993-94	President, Harvard Chinese Student Association

I. UNIVERSITY COMMUNITY ACTIVITIES

A. College Level

2010-pre	Member, Steering Committee, MD/PhD Program, UCSD/Salk/Burnham/TSRI
2009-2013	Founding Director, Institute of Genomic Medicine, UCSD
2008-pres	Member, MD-PhD Program Admissions Committee, UCSD/Salk/Burnham
2010-pre	Faculty Advisor, the MSTP Physician Scientist Colloquium
2010-pre	Member, Executive Committee, Research Council, UCSD Health Sciences
2008-pres	Member, Research Council, UCSD Health Science
2005 - 2008	Member, SOM Academic Senate Nominating Committee, Elected appointment by the Dean, University of Utah
2004 - 2008	Member, SOM Admissions Committee, University of Utah
2007-2008	Member, MD-PhD program Admissions Committee, University of Utah

A. Department Level

2008-pres	Member, Department of Ophthalmology CAP Committee, UCSD
2010-pres	Chief, Division of Ophthalmic Genetics, UCSD
2005 - 2008	Director, Ophthalmology and Visual Sciences, Division of Ophthalmic Genetics, Moran Eye Center, University of Utah
2005 - 2008	Co-Director, Ophthalmology and Visual Sciences, Division of International Ophthalmology, Moran Eye Center, University of Utah
2006-2008	Chair, Resident Research Committee, Moran Eye Center, University of Utah
2002 – 2008	Member, Ophthalmology and Visual Sciences, Resident Selection Committee, Moran Eye Center, University of Utah
2002 - 2008	Member, Ophthalmology and Visual Sciences, Department Library Committee, Moran Eye Center, University of Utah
2002 - 2008	Member, Ophthalmology and Visual Sciences, Department Seminar Speaker Committee, Moran Eye Center, University of Utah

B. Other Internal Level

2001 -2002	Member, Cleveland Clinic Foundation, Search Committee for the Director for the Center for Human Genetics and Genomics
1991 -1995	Member, Harvard University - M.I.T., M.D. Curriculum Committee, Division of Health Sciences and Technology
1988 -1989	President, Harvard University, Chinese Student Association

II. CURRENT MEMBERSHIPS IN PROFESSIONAL SOCIETIES

- American Academy of Ophthalmology
- American Association for the Advancement of Science
- Association of American Physicians
- American Society for Clinical Investigation
- American Society of Human Genetics
- Association for Research in Vision and Ophthalmology

III. TEACHING RESPONSIBILITIES/ASSIGNMENTS

A. Course Lectures

- 2008-pres Instructor, BMS core curriculum, quantitative Methods in Genetics (BIOM262)
- 2009 – 2010 Small group discussion leader, Genetics in Medicine, preclinical core curriculum, School of Medicine, UCSD
- 2008 – 2009 Course Co-Director, Genetics in Medicine, preclinical core curriculum, School of Medicine, UCSD
- 2008-2009 Core course in Cellular and Molecular Medicine, Biomedical Science PhD Program, UCSD
- 2008-pres Pharmacogenomics, School of Pharmacy and Pharmaceutical Sciences, UCSD
- 2008-pres Resident Lecture Series, Shiley Eye Center, UCSD
- 2008-pres Co-Director, bi-monthly San Diego city-wide Retinal Fluorescein Angiogram Conference
- 2008-pres Visiting Professor, Peking University, China
- 2007-pres Visiting Professor, Fudan University, China
- 2006-pres Visiting Professor, Sichuan Academy of Medical Sciences, China
- 2005-2008 Frontiers in Neuroscience, PhD Program in Neuroscience, University of Utah, Salt Lake City, UT; contributing lecturer
- 2005 Visiting Professor, King Khaled Eye Specialty Hospital. Riyahd, Saudi Arabia
- 2004 Faculty Research Topic Lecture Series, PhD. Program in Molecular Biology, University of Utah, Salt Lake City, UT; contributing lecturer
- 2003 - Present Visiting Professor, Peking University Eye Center, Peking University, China
- 2003 - Present Visiting Professor, Sichuan University, China
- 2003 - Present Visiting Professor, Sichuan academy of Medical Sciences and Sichuan Provincial Hospital, China
- 2003 - Present Visiting Professor, Zhong Shan Ophthalmic Center, Sun Yet-sen University, China
- 2002 - 2008 Director, Fluorescein Angiogram Conference, John Moran Eye Center, University of Utah, Salt Lake City, UT; Contributing lecturer
- 2002 - 2008 Grand Rounds, John Moran Eye Center, University of Utah, Salt Lake City, UT; Contributing lecturer
- 2002 - 2008 Ophthalmology Resident Lectures - Lecture Series on the Retina, John Moran Eye Center, University of Utah, Salt Lake City, UT; Contributing lecturer
- 2000 -2002 Grand Rounds Quiz for residents, Cole Eye Institute, Cleveland Clinic
- 1992 -1994 Teaching Assistant in HMS-M.I.T. HST Genetics and Medicine, 80 students (MIT undergraduate and graduate students, Harvard Medical Students)

B. Students/fellows Supervised

- 2012-pre Hongrong Luo, PhD, postdoctoral scholar
- 2011-pre Hong Ouyang, PhD, postdoctoral scholar
- 2011-pre Jing Luo, MD, PhD, postdoctoral scholar
- 2014-pre Jie Zhu, MD, PhD, postdoctoral scholar
- 2012-2013 Lei Xi, MD, PhD student
- 2012-2013 Maling Go, PhD, visiting fellow
- 2012-2013 Jin Zhu, MS student

2012-2013	Yang Yang, MD, postdoctoral scholar
2011-2012	Xiaohui Zhang, MD, postdoctoral scholar
2011-2012	Jing Zeng, MD, postdoctoral scholar
2011-pre	Jing Zhu, MD, PhD student
2010-2012	Hongjun Du, MD, PhD, postdoctoral scholar
2010-2011	Shufeng Wang, PhD, postdoctoral scholar
2010-2012	Li Zhang, PhD, postdoctoral scholar
2010-2012	Sharon Lim, PhD, postdoctoral scholar
2010-2012	Xuemei Zhu, MD, PhD, postdoctoral scholar
2010-2012	Shirong Wang, PhD, postdoctoral scholar
2011-2012	Yuhong Yang, PhD, visiting scholar
2010-pres	Ling Zhao, PhD, postdoctoral scholar
2010-pres	Seanna Grob, BS, medical student, research advisor
2010-pres	Frances Wu, AB, medical student, research advisor
2010-pres	Seanna Grob, BS, medical student, research advisor
2010-pres	Martin Krupa, BS, medical student, research advisor
2009-pres	Sara Bozorg, MD, Resident, research advisor
2009-pres	Woong Sun, PhD, visiting fellow
2009-2010	Hisham Alkuraya, MD, postdoctoral fellow
2009-pres	Clara Lee, BS, premed/lab assistant
2009-pres	Guy Hughes, BS, premed/lab assistant
2009-pres	Kevin Wang, BS, pre-optometry, lab assistant
2009-pres	Matthew Bedell, MD, postdoctoral scholar
2000-2010	Zhenglin Yang, MD, Assistant Professor
2008-2010	Xufang Sun, MD, postdoctoral fellow
2006-2010	Yuhong Chen, MD, PhD, postdoctoral fellow
2008-2009	Bei Li, MD, PhD, postdoctoral fellow
2009-2010	Xiaolei Wang, MD, postdoctoral fellow
2007-2010	Jiexi Zeng, MD, postdoctoral fellow
2008-pre	Chao Zhao, BS, graduate student, UCSD
2008-2009	Cynthia Meyer, lab assistant
2008-2009	Ruben Rarmona, lab assistant, UCSD medical student
2008-2009	Francesca Salazar, lab assistant, UCSD medical student
2006-2007	Peiquan Zhao, MD, PhD, visiting fellow, Chair, Dept of Ophthalmology, Xinhua Hospital of Shanghai Jiaotong University
2006-2008	Haoyu Chen, MD, Postdoctoral fellow
2006-2008	Jessica Jiang, MD, Postdoctoral fellow
2007-2008	Manjusha Dixie, PhD, Postdoctoral fellow
2007-2008	Ling Luo, MD, Postdoctoral fellow
2006-2008	Shrena Patel, MD, Postdoctoral fellow
2004 - 2008	Bradley Katz, MD, PhD. Post Doctoral Fellow, NIH K23 Mentored Clinician-Scientist Awardee, and Associate Professor
2004 - 2007	Josh Cameron, Neuroscience Program, University of Utah PhD Thesis Student
2007 – 2008	Ryan Constantine, Neuroscience Program, University of Utah PhD Thesis Student (MD/PhD)
2007 – 2008	Charity Olson, Molecular Biology Program, University of Utah PhD Thesis Student
2004 - 2006	Shin Kamaya, University of Utah Undergraduate Student
2005 - 2006	Asif Azimi, MD, Postdoctoral fellow
2005 - 2006	Jay Meyer, University of Utah Medical Student
2005 - 2006	Nathan Faulkner, University of Utah Medical Student

2005 - 2007	Rusten Gomez, University of Utah Undergraduate Student
2005 - 2007	Shan Duan, PhD, Postdoctoral fellow
2005 - 2006	Wendy Rao, University of Utah Undergraduate Student
2004	Mac Machan, University of Utah Undergraduate Student
2004	Nathan Faulkner, University of Utah Undergraduate Student
2004	Parley Filmore, University of Illinois Medical Student
2004 - 2007	Yali Chen, PhD, Postdoctoral fellow
2004 - 2008	Zongzhong Tong, PhD, Postdoctoral Fellow
2003	Kristina Price, Emery University Medical Student
2003	Marrielle Payne, University of Utah Medical Student
2003	Yian Yin, University of Utah Medical Student
2003 -2005	Chunmei Li, MD, Postdoctoral fellow, Staff Physician, Zhongshan Ophthalmic center, China
2003 - 2005	Jianbin Hu, MD, Postdoctoral fellow
2002 - 2008	Ophthalmology Attending. Supervising ophthalmology residents (PGY2-4), Moran Eye Center, Univ. of Utah
2002 - 2008	Ophthalmology Attending. Supervising residents (PGY2-4) in retina and retina laser clinic, VA Hospital
2002 -2003	Jieyan Pan, PhD, Senior Postdoctoral fellow, University of Penn
2002 -2003	Keke Fan, PhD, Senior Postdoctoral fellow, Case Western University
2002 -2003	Lin Gan, MD, Senior Postdoctoral fellow, University of Heidelberg
2002 -2004	Li Jiang, MD, Postdoctoral Fellow/PhD Student, Dept of Biology, University of Utah
2002 - 2007	Goutam Karan, PhD, Postdoctoral fellow
2001	Wei Lin, Harvard Medical Student
2000 -2001	Zhengya Yu, M.D., Prior Postdoctoral student, Assoc. Prof. Surgery and Chief of Vascular Surgery, Tong Reng Eye Hospital, Beijing, China
2000 -2002	Ophthalmology Attending. Supervised residents (PGY3-4), Cole Eye Institute, Cleveland Clinic Foundation
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1993	Edward Nugyen (Harvard College), UCSF Medical Student, practicing physician
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C. Continuing Education

CME Courses Taught

- 2005 Diabetic Retinopathy, Department of Public Health. Idaho State University, Boise, Idaho
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Bibliography

I. **ORIGINAL PUBLICATIONS**

A. Peer-Reviewed Publications

1. Kapler GM, **Zhang K**, Beverley SM. (1987) Sequence and S1 nuclease mapping of the 5' region of the dihydrofolate reductase-thymidylate synthase gene of *Leishmania major*. *Nucleic Acids Res*, 15(8), 3369-83.
2. Kapler GM, **Zhang K**, Beverley SM. (1990) Nuclease mapping and DNA sequence analysis of transcripts from the dihydrofolate reductase-thymidylate synthase (R) region of *Leishmania major*. *Nucleic Acids Res*, 18(21), 6399-408.
3. Perkins LA, Doctor JS, **Zhang K**, Stinson L, Perrimon N, Craig EA. (1990) Molecular and developmental characterization of the heat shock cognate 4 gene of *Drosophila melanogaster*. *Mol Cell Biol*, 10(6), 3232-8.
4. **Zhang K**, Chaillet JR, Perkins LA, Halazonetis TD, Perrimon N. (1990) *Drosophila* homolog of the mammalian jun oncogene is expressed during embryonic development and activates transcription in mammalian cells. *Proc Natl Acad Sci U S A*, 87(16), 6281-5.
5. **Zhang K**, Smouse D, Perrimon N. (1991) The crooked neck gene of *Drosophila* contains a motif found in a family of yeast cell cycle genes. *Genes Dev*, 5(6), 1080-91.
6. Rutledge BJ*, Zhang K*, Bier E, Jan YN, Perrimon N. (1992) The *Drosophila* spitz gene encodes a putative EGF-like growth factor involved in dorsal-ventral axis formation and neurogenesis. *Genes Dev*, 6(8), 1503-17. co-first authors.
7. **Zhang K**, Bither PP, Park R, Donoso LA, Seidman JG, Seidman CE. (1994) A dominant Stargardt's macular dystrophy locus maps to chromosome 13q34. *Arch Ophthalmol*, 112(6), 759-64.
8. Hata Y, Duh E, **Zhang K**, Robinson GS, Aiello LP. (1998) Transcription factors Sp1 and Sp3 alter vascular endothelial growth factor receptor expression through a novel recognition sequence. *J Biol Chem*, 273(30), 19294-303.
9. Kniazeva M, Chiang MF, Morgan B, Anduze AL, Zack DJ, Han M, **Zhang K**. (1999) A new locus for autosomal dominant stargardt-like disease maps to chromosome 4. *Am J Hum Genet*, 64(5), 1394-9.
10. Kniazeva MF, Chiang MF, Cutting GR, Zack DJ, Han M, **Zhang K**. (1999) Clinical and genetic studies of an autosomal dominant cone-rod dystrophy with features of Stargardt disease. *Ophthalmic Genet*, 20(2), 71-81.
11. **Zhang K**, Garibaldi DC, Kniazeva M, Albini T, Chiang MF, Kerrigan M, Sunness JS, Han M, Allikmets R. (1999) A novel mutation in the ABCR gene in four patients with autosomal recessive Stargardt disease. *Am J Ophthalmol*, 128(6), 720-4.
12. **Zhang K**, Jampel HD. (1999) Discordance of primary infantile glaucoma in monozygotic twins. *Am J Ophthalmol*, 128(1), 97-8.
13. **Zhang K**, Kniazeva M, Hutchinson A, Han M, Dean M, Allikmets R. (1999) The ABCR gene in recessive and dominant Stargardt diseases: a genetic pathway in macular degeneration. *Genomics*, 60(2), 234-7.
14. Allikmets R. (2000) Further evidence for an association of ABCR alleles with age-related macular degeneration. The International ABCR Screening Consortium. *Am J Hum Genet*, 67(2), 487-91.
15. Kniazeva M, Traboulsi EI, Yu Z, Stefko ST, Gorin MB, Shugart YY, O'Connell JR, Blaschak CJ, Cutting G, Han M, **Zhang K**. (2000) A new locus for dominant drusen and macular degeneration maps to chromosome 6q14. *Am J Ophthalmol*, 130(2), 197-202.
16. Stefko ST, **Zhang K**, Gorin MB, Traboulsi EI. (2000) Clinical spectrum of chromosome 6-linked autosomal dominant drusen and macular degeneration. *Am J Ophthalmol*, 130(2), 203-8.
17. Ayyagari R, **Zhang K**, Hutchinson A, Yu Z, Swaroop A, Kakuk LE, Seddon JM, Bernstein PS, Lewis RA, Tammur J, Yang Z, Li Y, Zhang H, Yashar BM, Liu J, Petrukhin K, Sieving PA, Allikmets R. (2001) Evaluation of the ELOVL4 gene in patients with age-related macular degeneration. *Ophthalmic Genet*, 22(4), 233-9.

18. Bernstein PS, Tammur J, Singh N, Hutchinson A, Dixon M, Pappas CM, Zabriskie NA, **Zhang K**, Petrukhin K, Leppert M, Allikmets R. (2001) Diverse macular dystrophy phenotype caused by a novel complex mutation in the ELOVL4 gene. *Invest Ophthalmol Vis Sci*, 42(13), 3331-6.
19. Li Y, Marcos I, Borrego S, Yu Z, **Zhang K**, Antinolo G. (2001) Evaluation of the ELOVL4 gene in families with retinitis pigmentosa linked to the RP25 locus. *J Med Genet*, 38(7), 478-80.
20. Wilkie SE, Li Y, Deery EC, Newbold RJ, Garibaldi D, Bateman JB, Zhang H, Lin W, Zack DJ, Bhattacharya SS, Warren MJ, Hunt DM, **Zhang K**. (2001) Identification and functional consequences of a new mutation (E155G) in the gene for GCAP1 that causes autosomal dominant cone dystrophy. *Am J Hum Genet*, 69(3), 471-80.
21. **Zhang K**, Kniazeva M, Han M, Li W, Yu Z, Yang Z, Li Y, Metzker ML, Allikmets R, Zack DJ, Kakuk LE, Lagali PS, Wong PW, MacDonald IM, Sieving PA, Figueroa DJ, Austin CP, Gould RJ, Ayyagari R, Petrukhin K. (2001) A 5-bp deletion in ELOVL4 is associated with two related forms of autosomal dominant macular dystrophy. *Nature Genet*, 27(1), 89-93.
22. Yang Z, Peachey NS, Moshfeghi DM, Thirumalaichary S, Chorich L, Shugart YY, Fan K, **Zhang K**. (2002) Mutations in the RPGR gene cause X-linked cone dystrophy. *Hum Mol Genet*, 11(5), 605-11.
23. **Zhang K**, Garibaldi DC, Li Y, Green WR, Zack DJ. (2002) Butterfly-shaped pattern dystrophy: a genetic, clinical, and histopathological report. *Arch Ophthalmol*, 120(4), 485-90.
24. Johnson S, Halford S, Morris AG, Patel RJ, Wilkie SE, Hardcastle AJ, Moore AT, **Zhang K**, Hunt DM. (2003) Genomic organisation and alternative splicing of human RIM1, a gene implicated in autosomal dominant cone-rod dystrophy (CORD7). *Genomics*, 81(3), 304-14.
25. Kniazeva M, Sieber M, McCauley S, **Zhang K**, Watts JL, Han M. (2003) Suppression of the ELO-2 FA elongation activity results in alterations of the fatty acid composition and multiple physiological defects, including abnormal ultradian rhythms, in *Caenorhabditis elegans*. *Genetics*, 163(1), 159-69.
26. Yang Z, Lin W, Moshfeghi DM, Thirumalaichary S, Li X, Jiang L, Zhang H, Zhang S, Kaiser PK, Traboulsi EI, **Zhang K**. (2003) A novel mutation in the RDS/Peripherin gene causes adult-onset foveomacular dystrophy. *Am J Ophthalmol*, 135(2), 213-8.
27. Zhang XM, Yang Z, Karan G, Hashimoto T, Baehr W, Yang XJ, **Zhang K**. (2003) Elov14 mRNA distribution in the developing mouse retina and phylogenetic conservation of Elov14 genes. *Mol Vis*, 9301-7.
28. Berry V, Yang Z, Addison PK, Francis PJ, Ionides A, Karan G, Jiang L, Lin W, Hu J, Yang R, Moore A, **Zhang K**, Bhattacharya SS. (2004) Recurrent 17 bp duplication in PITX3 is primarily associated with posterior polar cataract (CPP4). *J Med Genet*, 41(8), e109.
29. Hunt DM, Wilkie SE, Newbold R, Deery E, Warren MJ, Bhattacharya SS, **Zhang K**. (2004) Dominant cone and cone-rod dystrophies: functional analysis of mutations in retGC1 and GCAP1. *Novartis Found Symp*, 25537-49; discussion 49-50, 177-8.
30. Karan G, Yang Z, **Zhang K**. (2004) Expression of wild type and mutant ELOVL4 in cell culture: subcellular localization and cell viability. *Mol Vis*, 10248-53.
31. Maugeri A, Meire F, Hoyng CB, Vink C, Van Regemorter N, Karan G, Yang Z, Cremers FP, **Zhang K**. (2004) A novel mutation in the ELOVL4 gene causes autosomal dominant Stargardt-like macular dystrophy. *Invest Ophthalmol Vis Sci*, 45(12), 4263-7.
32. Payne M, Yang Z, Katz BJ, Warner JE, Weight CJ, Zhao Y, Pearson ED, Treft RL, Hillman T, Kennedy RJ, Meire FM, **Zhang K**. (2004) Dominant optic atrophy, sensorineural hearing loss, ptosis, and ophthalmoplegia: a syndrome caused by a missense mutation in OPA1. *Am J Ophthalmol*, 138(5), 749-55.
33. Toomes C, Bottomley HM, Jackson RM, Towns KV, Scott S, Mackey DA, Craig JE, Jiang L, Yang Z, Trembath R, Woodruff G, Gregory-Evans CY, Gregory-Evans K, Parker MJ, Black GC, Downey LM, **Zhang K**, Inglehearn CF. (2004) Mutations in LRP5 or FZD4 underlie the common familial exudative vitreoretinopathy locus on chromosome 11q. *Am J Hum Genet*, 74(4), 721-30.

34. Toomes C, Bottomley HM, Scott S, Mackey DA, Craig JE, Appukuttan B, Stout JT, Flaxel CJ, **Zhang K**, Black GC, Fryer A, Downey LM, Inglehearn CF. (2004) Spectrum and frequency of FZD4 mutations in familial exudative vitreoretinopathy. *Invest Ophthalmol Vis Sci*, 45(7), 2083-90.
35. Xu Q, Wang Y, Dabdoub A, Smallwood PM, Williams J, Woods C, Kelley MW, Jiang L, Tasman W, **Zhang K**, Nathans J. (2004) Vascular development in the retina and inner ear: control by Notch and Frizzled-4, a high-affinity ligand-receptor pair. *Cell*, 116(6), 883-95.
36. Yang Z, Li Y, Jiang L, Karan G, Moshfeghi D, O'Connor S, Li X, Yu Z, Lewis H, Zack D, Jacobson S, **Zhang K**. (2004) A novel RDS/peripherin gene mutation associated with diverse macular phenotypes. *Ophthalmic Genet*, 25(2), 133-45.
37. Berthelemy-Okazaki N, Zhao Y, Yang Z, Camp NJ, Farnham J, Parker D, Tsuruda J, Macdonald J, **Zhang K**, Cannon-Albright LA. (2005) Examination of ELN as a candidate gene in the Utah intracranial aneurysm pedigrees. *Stroke*, 36(6), 1283-4.
38. Jiang L, Katz BJ, Yang Z, Zhao Y, Faulkner N, Hu J, Baird J, Baehr W, Creel DJ, **Zhang K**. (2005) Autosomal dominant cone dystrophy caused by a novel mutation in the GCAP1 gene (GUCA1A). *Mol Vis*, 11143-51.
39. Karan G, Lillo C, Yang Z, Cameron DJ, Locke KG, Zhao Y, Thirumalaichary S, Li C, Birch DG, Vollmer-Snarr HR, Williams DS, **Zhang K**. (2005) Lipofuscin accumulation, abnormal electrophysiology, and photoreceptor degeneration in mutant ELOVL4 transgenic mice: a model for macular degeneration. *Proc Natl Acad Sci U S A*, 102(11), 4164-9.
40. Karan G, Yang Z, Howes K, Zhao Y, Chen Y, Cameron DJ, Lin Y, Pearson E, **Zhang K**. (2005) Loss of ER retention and sequestration of the wild-type ELOVL4 by Stargardt disease dominant negative mutants. *Mol Vis*, 11657-64.
41. Li C, Kosmorsky G, **Zhang K**, Katz BJ, Ge J, Traboulsi EI. (2005) Optic atrophy and sensorineural hearing loss in a family caused by an R445H OPA1 mutation. *Am J Med Genet A*, 138(3), 208-11.
42. Pauer GJ, Xi Q, Zhang K, Traboulsi EI, Hagstrom SA. (2005) Mutation screen of the membrane-type frizzled-related protein (MFRP) gene in patients with inherited retinal degenerations. *Ophthalmic Genet*, 26(4), 157-61.
43. Yang Z, Alvarez BV, Chakarova C, Jiang L, Karan G, Frederick JM, Zhao Y, Sauve Y, Li X, Zrenner E, Wissinger B, Hollander AI, Katz B, Baehr W, Cremers FP, Casey JR, Bhattacharya SS, **Zhang K**. (2005) Mutant carbonic anhydrase 4 impairs pH regulation and causes retinal photoreceptor degeneration. *Hum Mol Genet*, 14(2), 255-65.
44. Bidinost C, Matsumoto M, Chung D, Salem N, **Zhang K**, Stockton DW, Khouri A, Megarbane A, Bejjani BA, Traboulsi EI. (2006) Heterozygous and homozygous mutations in PITX3 in a large Lebanese family with posterior polar cataracts and neurodevelopmental abnormalities. *Invest Ophthalmol Vis Sci*, 47(4), 1274-80.
45. Chen H, Chen Y, Horn R, Yang Z, Wang C, Turner MJ, **Zhang K**. (2006) Clinical features of autosomal dominant retinitis pigmentosa associated with a Rhodopsin mutation. *Ann Acad Med Singapore*, 35(6), 411-5.
46. Katz BJ, Yang Z, Payne M, Lin Y, Zhao Y, Pearson E, Duan S, Kamaya S, Karan G, **Zhang K**. (2006) Fundus appearance of choroideremia using optical coherence tomography. *Adv Exp Med Biol*, 57257-61.
47. Katz BJ, Zhang K. (2006) Juxtapapillary hemangioblastoma as a manifestation of von Hippel-Lindau disease. *Pediatr Int*, 48(4), 423-5.
48. Katz BJ, Zhao Y, Warner JE, Tong Z, Yang Z, **Zhang K**. (2006) A family with X-linked optic atrophy linked to the OPA2 locus Xp11.4-Xp11.2. *Am J Med Genet A*, 140(20), 2207-11.
49. Li Y, Wang G, Dong B, Sun X, Turner MJ, Kamaya S, **Zhang K**. (2006) A novel mutation of the VMD2 gene in a Chinese family with best vitelliform macular dystrophy. *Ann Acad Med Singapore*, 35(6), 408-10.
50. Magnusson KP*, Duan S, Sigurdsson H, Petursson H, Yang Z, Zhao Y, Bernstein PS, Ge J, Jonasson F, Stefansson E, Helgadottir G, Zabriskie NA, Jonsson T, Bjornsson A, Thorlacius T,

- Jonsson PV, Thorleifsson G, Kong A, Stefansson H, **Zhang K***, Stefansson K, Gulcher JR*. (2006) CFH Y402H confers similar risk of soft drusen and both forms of advanced AMD. PLoS Med, 3(1), 109-114. *Co-corresponding authors.
51. Nozaki M, Raisler BJ, Sakurai E, Sarma JV, Barnum SR, Lambris JD, Chen Y, **Zhang K**, Ambati BK, Baffi JZ, Ambati J. (2006) Drusen complement components C3a and C5a promote choroidal neovascularization. Proc Natl Acad Sci U S A, 103(7), 2328-33.
 52. Sauve Y, Karan G, Yang Z, Li C, Hu J, **Zhang K**. (2006) Treatment with carbonic anhydrase inhibitors depresses electroretinogram responsiveness in mice. Adv Exp Med Biol, 572439-46.
 53. Tong Z, Yang Z, Meyer JJ, McInnes AW, Xue L, Azimi AM, Baird J, Zhao Y, Pearson E, Wang C, Chen Y, **Zhang K**. (2006) A novel locus for X-linked retinitis pigmentosa. Ann Acad Med Singapore, 35(7), 476-8.
 54. Wang C, Hu J, Bernstein PS, Teske MP, Payne M, Yang Z, Li C, Adams D, Baird JH, **Zhang K**. (2006) Intravitreal injection of triamcinolone acetonide for macular edema due to retinitis pigmentosa and other retinal diseases. Adv Exp Med Biol, 572309-14.
 55. Wang C, Katz BJ, Turner MJ, Hu J, **Zhang K**. (2006) Intravitreal triamcinolone acetonide for the treatment of diffuse diabetic macular oedema--a case report. Ann Acad Med Singapore, 35(2), 112-4.
 56. Brown DM, Kaiser PK, Michels M, Goubrane MD, Heier JS, Kim RY, Sy JP, Schneider S for the ANCHOR Study Group. (2006) Ranibizumab versus Vertiporfin for Neovascular Age-Related Macular Degeneration. New Eng J of Med, 355 (14) 1432-1444.
 57. Rosenfeld PJ, Brown DM, Heier JS, Boyer DS, Kaiser PK, Chung CY, Kim RY for the MARINA Study Group. (2006) Ranibizumab for Neovascular Age-Related Macular Degeneration, New Eng J of Med, 355 (14) 1419-1431.
 58. Yang Z, Camp NJ, Sun H, Tong Z, Gibbs D, Cameron DJ, Chen H, Zhao Y, Pearson E, Li X, Chien J, Dewan A, Harmon J, Bernstein PS, Shridhar V, Zabriskie NA, Hoh J, Howes K, **Zhang K**. (2006) A variant of the HTRA1 gene increases susceptibility to age-related macular degeneration. Science, 314(5801), 992-3. (see Science New Focus, same issue; Science Breakthroughs of the Year, 2006)
 59. Alvarez BV, Vithana EN, Yang Z, Koh AH, Yeung K, Yong V, Shandro HJ, Chen Y, Kolatkar P, Palasingam P, **Zhang K**, Aung T, Casey JR. (2007) Identification and characterization of a novel mutation in the carbonic anhydrase IV gene that causes retinitis pigmentosa. Invest Ophthalmol Vis Sci, 48(8), 3459-68.
 60. Cameron DJ, Tong Z, Yang Z, Kaminoh J, Kamiyah S, Chen H, Zeng J, Chen Y, Luo L, **Zhang K**. (2007) Essential role of Elovl4 in very long chain fatty acid synthesis, skin permeability barrier function, and neonatal survival. Int J Biol Sci, 3(2), 111-9.
 61. Cameron DJ, Yang Z, Gibbs D, Chen H, Kaminoh Y, Jorgensen A, Zeng J, Luo L, Brinton E, Brinton G, Brand JM, Bernstein PS, Zabriskie NA, Tang S, Constantine R, Tong Z, **Zhang K**. (2007) HTRA1 Variant Confers Similar Risks to Geographic Atrophy and Neovascular Age-related Macular Degeneration. Cell Cycle, 6(9), 1122-5.
 62. Fu L, Garland D, Yang Z, Shukla D, Rajendran A, Pearson E, Stone EM, **Zhang K**, Pierce EA. (2007) The R345W Mutation in EFEMP1 is Pathogenic, and Causes AMD-Like Deposits in Mice. Hum Mol Genet. 16, 3411-22.
 63. Li W, Chen Y, Cameron DJ, Wang C, Karan G, Yang Z, Zhao Y, Pearson E, Chen H, Deng C, Howes K, **Zhang K**. (2007) Elovl4 haploinsufficiency does not induce early onset retinal degeneration in mice. Vision Res, 47(5), 714-22.
 64. Tuo J, Bojanowski CM, Zhou M, Shen D, Ross RJ, Rosenberg KI, Cameron DJ, Yin C, Kowalak JA, Zhuang Z, **Zhang K**, Chan CC. (2007) Murine ccl2/cx3cr1 deficiency results in retinal lesions mimicking human age-related macular degeneration. Invest Ophthalmol Vis Sci, 48(8), 3827-36.
 65. Yu J, Wiita P, Kawaguchi R, Honda J, Jorgensen A, **Zhang K**, Fischetti VA, Sun H. (2007) Biochemical analysis of a common human polymorphism associated with age-related macular degeneration. Biochemistry, 46(28), 8451-61.

66. Chan CC, Shen D, Zhou M, Ross RJ, Ding X, **Zhang K**, Green WR, Tuo J. (2007) Human HtrA1 in the archived eyes with age-related macular degeneration. *Trans Am Ophthalmol Soc.* 105:92-7
67. Kaiser PK, Brown DM, **Zhang K**, Hudson HL, Holz FG, Shapiro H, Schneider S, Acharya NR (2007). Ranibizumab for Predominantly Classic Neovascular Age-related Macular Degeneration: Subgroup Analysis of First-year ANCHOR Results. *Am J Ophthalmol.* 144:850-857.
68. Chen H, Yang Z, Gibbs D, Yang X, Hau V, Zhao P, Ma X, Zeng J, Luo L, Pearson E, Constantine R, Kaminoh Y, Harmon J, Tong Z, Stratton CA, Cameron JD, Tang S, **Zhang, K.** (2008). Association of HTRA1 polymorphism and bilaterality in advanced age related macular degeneration. *Vision Research*, 48(5):690-4.
69. Gibbs D, Yang Z, Constantine R, Cameron J, Chen H, DeWan A, Ma X, Yang X, Jorgenson A, Zeng J, Harmon J, Tong Z, Hoh J, **Zhang K.** (2008). Further mapping of 10q26 supports strong association of an HTRA1 promoter polymorphism as a causal variant in age-related macular degeneration. *Vision Research*, 48(5):685-9
70. Lu F, Hu J, Zhao, P, Lin Y, Yang Y, Liu X, Fan Y, Chen B, Liao S, Du, Q, Lei C, Cameron J, **Zhang K***, Yang Z*. (2007). HTRA1 variant increases risk to neovascular age-related macular degeneration in Chinese population. *Vision Research* 47:3120-3123. *co-corresponding authors.
71. Yang Z, Tong Z, Chorich LJ, Pearson E, Moore A, Hunt DM, **Zhang K.** (2008) Clinical feature and fine mapping of North Carolina Macular Degeneration *Vision Research* 48(3):470-7.
72. Yang X, Zabriskie NA, Hau VS, Chen H, Tong Z, Gibbs D, Farhi P, Katz BJ, Luo L, Pearson E, Goldsmith J, Ma X, Kaminoh Y, Chen Y, Yu B, Zeng J, **Zhang K***, and Yang, Z*. (2008). Genetic association of LOXL1 gene variants and exfoliation glaucoma in a Utah cohort. *Cell Cycle* 15 (4):521-4.. *co-corresponding authors.
73. Kleiman M E, Yamada K, Kakeda A, Chandrasekaran V, Nozaki M, Baffi J Z, Albuquerque R J C, Yamasake S, Itaya M, Pan Y, Appukuttan B, Gibbs D, Yang Z, Kariko K, Ambati B, Wilgus T A, DiPietro L A, Sakurai E, **Zhang K**, Smith T R, Taylor E W, Ambati J. (2008). Sequence- and target-independent suppression of angiogenesis by siRNA via TLR3. *Nature* 452, 591-597.
74. Jones, CA, London, NR., Chen, H, Park, KW., Sauvaget, D., Rebecca A. Stockton, RA., Wythe, J. D., Suh, W., Larrieu-Lahargue, F., Mukouyama, Y., Lindblom, P., Seth, P., Frias, A., Nishiya, N., Ginsberg, M., Gerhardt, H, **Zhang, K.***, and Li, D.Y.* (2008). Robo4 stabilizes the vascular network by inhibiting pathologic angiogenesis and endothelial hyperpermeability. *Nature Medicine* 14, 448-453. *co-corresponding authors.
75. Chen Y, Jiang D, Yu L, Katz B, **Zhang K**, Wan B, Sun X. (2008). CYP1B1 and MYOC mutations in 116 Chinese patients with primary congenital glaucoma. *Arch Ophthalmol.* 126(10):1443-7.
76. Jiang L, Wheaton D, Bereta G, **Zhang K**, Palczewski K, Birch DG, Baehr W. (2008). A novel GCAP1(N104K) mutation in EF-hand 3 (EF3) linked to autosomal dominant cone dystrophy. *Vision Res.* 48:2425-32.
77. Luo L, Harmon J, Yang X, Chen H, Patel S, Mineau G, Yang Z, Constantine R, Buehler J, Kaminoh Y, Ma X, Wong TY, Zhang M, **Zhang K.** (2008) Familial aggregation of age-related macular degeneration in the Utah population. *Vision Res.* 48(3):494-500.
78. Tonna S, Dandapani SV, Uscinski A, Appel GB, Schlöndorff JS, **Zhang K**, Denker BM, Pollak MR. (2008). Functional genetic variation in aminopeptidase A (ENPEP): lack of clear association with focal and segmental glomerulosclerosis (FSGS). *Gene.* 410(1):44-52. Epub 2007 Dec 3.
79. Tonna SJ, Needham A, Polu K, Uscinski A, Appel GB, Falk RJ, Katz A, Al-Waheed S, Kaplan BS, Jerums G, Savige J, Harmon J, **Zhang K**, Curhan GC, Pollak MR. (2008). NPHS2 variation in focal and segmental glomerulosclerosis. *BMC Nephrol.* 2008 Sep 29;9:13.
80. Tong Z, Yang Z, Patel S, Chen H, Gibbs D, Zeng J, Yang X, Ma X, Harmon J, Pearson E, Beuhler J, Luo L, Hau VS, Kaminoh Y, Zabriskie NA, Sun JK, Prakash M, Haman R, Tonna S, Constantine R, Ronquillo CC, Sadda SV, Avery RL, Brand JM, London N, King GL, Bernstein

- PS, Watkins S, Genetics of Diabetes and Diabetic Complication Study Group, Jorde LB, Li DY, Aiello LP, Pollak MR, **Zhang K.** (2008). Promoter polymorphism of the Erythropoietin gene in severe diabetic eye and kidney complications. *Proc Natl Acad Sci.* 105:6998-7003. Epub 2008 May 5.
81. Yang Z, Chen Y, Lillo C, Chien J, Yu Z, Michaelides M, Klein M, Howes KA, Li Y, Kaminoh Y, Chen H, Zhao C, Chen Y, Al-Sheikh YT, Karan G, Corbeil D, Escher P, Kamaya S, Li C, Johnson S, Frederick JM, Zhao Y, Wang C, Cameron DJ, Huttner WB, Schorderet DF, Munier FL, Moore AT, Birch DG, Baehr W, Hunt DM, Williams DS, **Zhang K.** (2008). Mutant prominin 1 found in patients with macular degeneration disrupts photoreceptor disk morphogenesis in mice. *Journal Clinical Investigation* 118:2908-2916.
 82. Yang Z, Stratton C, Francis PJ, Kleinman ME, Tan PL, Gibbs D, Tong Z, Chen H, Constantine R, Yang X, Chen Y, Zeng J, Davey L, Ma X, Hau VS, Wang C, Harmon J, Buehler J, Pearson E, Patel S, Kaminoh Y, Watkins S, Luo L, Zabriskie NA, Bernstein PS, Cho W, Schwager A, Hinton DR, Klein ML, Hamon SC, Simmons E, Yu B, Campochiaro B, Sunness JS, Campochiaro P, Jorde L, Parmigiani G, Zack DJ, Katsanis N, Ambati J, **Zhang K.** (2008). Toll-like receptor 3 and geographic atrophy in age-related macular degeneration. *New England Journal of Med.* 359:1456-63. Epub 2008 Aug 27.
 83. Khurana RN, Sun X, Pearson E, Yang Z, Harmon J, Goldberg MF, **Zhang K.** A reappraisal of the clinical spectrum of North Carolina macular dystrophy. *Ophthalmology*. 2009 Oct;116(10):1976-83. Epub 2009 Jul 18.
 84. Yamashita, T, Liu, J, Gao, J, LeNoue, S, Wang, C, Kaminoh, J, Bowne, S, Sullivan, L, Daiger, S, **Zhang, K**, Fitzgerald, M, Kefalov, V, and Zuo, J. (2009). Essential and synergistic roles of RP1 and RP1L1 in rod photoreceptor axoneme and retinitis pigmentosa. *Journal of Neuroscience*, 29:9748-60.
 85. Li F, Marchette LD, Brush RS, Elliott MH, Le YZ, Henry KA, Anderson AG, Zhao C, Sun X, **Zhang K**, Anderson RE. (2009) DHA does not protect ELOVL4 transgenic mice from retinal degeneration. *Mol Vis.* 13;15:1185-93.
 86. Brown DM, Michels M, Kaiser PK, Heier JS, Sy JP, Ianchulev T; ANCHOR Study Group. (2009). Ranibizumab versus verteporfin photodynamic therapy for neovascular age-related macular degeneration: Two-year results of the ANCHOR study. *Ophthalmology*. 116(1):57-65.
 87. Jones CA, Nishiya N, London NR, Zhu W, Sorensen LK, Chan AC, Lim CJ, Chen H, Zhang Q, Schultz PG, Hayallah AM, Thomas KR, Famulok M, **Zhang K**, Ginsberg MH, Li DY. Slit2-Robo4 signaling promotes vascular stability by blocking Arf6 activity. *Nat Cell Biol.* 2009 Oct 18. [Epub ahead of print]
 88. Li F, Marchette LD, Brush RS, Elliott MH, Le YZ, Henry KA, Anderson AG, Zhao C, Sun X, Zhang K, Anderson RE. DHA does not protect ELOVL4 transgenic mice from retinal degeneration. *Mol Vis.* 2009 Jun 13;15:1185-93.
 89. Jiao X, Yang Z, Yang X, Chen Y, Tong Z, Zhao C, Zeng J, Chen H, Gibbs D, Sun X, Li B, Wakins WS, Meyer C, Wang X, Kasuga D, Bedell M, Pearson E, Weinreb RN, Leske MC, Hennis A, DeWan A, Nemesure B, Jorde LB, Hoh J, Hejtmancik JF, **Zhang K.** (2009). Common variants on chromosome 2 and risk of primary open-angle glaucoma in the Afro-Caribbean population of Barbados. *Proc Natl Acad Sci U S A.* 106:17105-10. Epub 2009 Sep 24.
 90. Crow RW, Katz BJ, Warner JE, Alder SC, **Zhang K**, Schulman S, Digre KB. (2009). Giant cell arteritis and mortality. *J Gerontol A Biol Sci Med Sci.* 64:365-9.
 91. Takeuchi T, Hayashi T, Bedell M, **Zhang K**, Yamada H, Tsuneoka H. (2009). A novel haplotype with the R345W mutation in the EFEMP1 gene associated with autosomal dominant drusen in a Japanese family. *Invest Ophthalmol Vis Sci.* 2010 Mar;51(3):1643-50.
 92. Bedell M, Harkewicz R, Wang X, Zhang K. (2010). Focus on molecules: ELOVL4. *Exp Eye Res.*:476-7.
 93. Kuny S, Gaillard F, Mema SC, Freund PR, **Zhang K**, Macdonald IM, Sparrow JR, Sauvé Y. (2010). Inner retina remodeling in a mouse model of stargardt-like macular dystrophy (STGD3). *Invest Ophthalmol Vis Sci.* 1:2248-62.

94. Chen H, Zhang M, Tang S, London NR, Li DY, **Zhang K.** (2010). Slit-robo signaling in ocular angiogenesis. *Adv Exp Med Biol.* 664:457-63.
95. Yang Z, Tong Z, Chen Y, Zeng J, Lu F, Sun X, Zhao C, Wang K, Davey L, Chen H, London N, Muramatsu D, Salasar F, Carmona R, Kasuga D, Wang X, Bedell M, Dixie M, Zhao P, Yang R, Gibbs D, Liu X, Li Y, Li C, Li Y, Campochiaro B, Constantine R, Zack DJ, Campochiaro P, Fu Y, Li DY, Katsanis N, **Zhang K.** (2010). Genetic and functional dissection of HTRA1 and LOC387715 in age-related macular degeneration. *PLoS Genet.* 6(2):e1000836.
96. Michaelides M, Gaillard MC, Escher P, Tiab L, Bedell M, Borruat FX, Barthelmes D, Carmona R, **Zhang K.**, White E, McClements M, Robson AG, Holder G, Bradshaw K, Hunt DM, Webster A, Moore AT, Schorderet D, Munier FL. The PROM1 mutation p.R373C causes an autosomal dominant bull's eye maculopathy associated with rod, rod-cone and macular dystrophy. *Invest Ophthalmol Vis Sci.* 2010 Apr 14. [Epub ahead of print]
97. Neale B M, Fagerness J, Reynolds R, Sobrin L, Parker M, Raychaudhuri S, Tan P L, Oh E C, Merriam J E, Souied E, Bernstein P S, Li B, Frederick J M, **Zhang K.**, Brantley M A, Lee A Y, Zack D J, Campochiaro B, Campochiaro P, Ripke S, Smith R T, Barile G R, Katsanis N, Allikmets R, Daly M J, Seddon J M. Genome-wide association study of advanced age-related macular degeneration identifies a role of the hepatic lipase gene (LIPC). *Proceedings of the National Academy of Sciences of the United States of America* 2010;107(16):7395-400.
98. Riazuddin S A, Iqbal M, Wang Yue, Masuda T, Chen Y, Bowne S, Sullivan L S, Waseem N H, Bhattacharya S, Daiger S P, **Zhang K.**, Khan S N, Riazuddin S, Hejtmancik J F, Sieving P A, Zack D J, Katsanis N. A splice-site mutation in a retina-specific exon of BBS8 causes nonsyndromic retinitis pigmentosa. *American journal of human genetics* 2010;86(5):805-12.
99. Niu, Y, Yu Y, Bernat, A, Yang, S, He, X, Guo, X, Chen, D, Chen, Y, Ji, S, Si, W, Li, Y, Tan, T, Wei, Q, Wang, H, Shi, L, Guan, J, Zhu X, Afanassieff, M, Savatier, P*, **Zhang, K***, Zhou, Q*, Ji, W*. (2010) Transgenic rhesus monkeys produced by gene transfer into early cleavage stage embryos using a simian immunodeficiency virus-based vector. *PNAS*, in press. *co-corresponding authors.
100. Zeng J, Chen Y, Tong Z, Zhou X, Zhao C, Wang K, Hughes G, Kasuga D, Bedell M, Lee C, Ferreyra H, Kozak I, Haw W, Guan J, Shaw R, Stevenson W, Weishaar P, Nelson M, Tang L, **Zhang K** (2010). Lack of association of CFD polymorphisms with advanced age-related macular degeneration. *Molecular Vision*, in press.
101. Zhou H, Li W, Zhu S, Joo JY, Do JT, Xiong W, Kim JB, **Zhang K.**, Schöler HR, Ding S. (2010). Conversion of mouse epiblast stem cells to an earlier pluripotency state by small molecules. *J Biol Chem.* 285(39):29676-80. Epub 2010 Aug 12.
102. Yang X, Yamada K, Katz B, Guan H, Wang L, Andrews C, Zhao G, Engle EC, Chen H, Tong Z, Kong J, Hu C, Kong Q, Fan G, Wang Z, Ning M, Zhang S, Xu J, **Zhang K.** KIF21A mutations in two Chinese families with congenital fibrosis of the extraocular muscles (CFEOM). *Mol Vis.* 2010 Oct 13;16:2062-70.
103. Zhu, S, Li, W., Zhou, H., Wei, W., Ambasudhan, R., Lin, T., Kim, J., **Zhang, K.**, Ding, S. (2010). Reprogramming of Human Primary Somatic Cells by OCT4 and Chemical Compounds. *Cell Stem Cells* 7: 651-655
104. Chen, Y, Zeng, J, Zhao, C, Wang, K, Trood, E, Buehler, J, Weed, M, Bernstein, PS, Kasuga, D, Hughes, G, Fu, V, Lee, C, Crocker, M, Bedell, M, Salasar, F, Goldbaum, M, Ferrayra, H, Yang, Z, and **Zhang, K** (2010). Assessing Susceptibility to Age-Related Macular Degeneration with Genetic Markers and Environmental Factors. *Archives of Ophthalmology, Archives of Ophthalmol.* 2011;129(3):344-351.
105. **Zhang,K***, Hopkins, JJ, Heier, JS, Birch, DG, Halperin, LS, Albini, TA, Brown, DM, Jaffe, GJ, Tao, W, and Williams, GA. (2011). Ciliary neurotrophic factor delivered by encapsulated cell intraocular implants for treatment of geographic atrophy in age-related macular degeneration. *PNAS* 108(15):6241-5. *corresponding author.
106. Korn BS, Zhang K. . Carotid-cavernous sinus fistula. *N Engl J Med.* 2011 Feb 24;364(8):

107. Kim J, Efe JA, Zhu S, Talantova M, Yuan X, Wang S, Lipton SA, **Zhang K**, Ding S. (2011). Direct reprogramming of mouse fibroblasts to neural progenitors. *Proc Natl Acad Sci U S A.* 108:7838-43.
108. Li W, Sun W, Zhang Y, Wei W, Ambasudhan R, Xia P, Talantova M, Lin T, Kim J, Wang X, Kim WR, Lipton SA, **Zhang K***, Ding S*. (2011) Rapid induction and long-term self-renewal of primitive neural precursors from human embryonic stem cells by small molecule inhibitors. *Proc Natl Acad Sci U S A.* 108:8299-304. *co-corresponding author.
109. Zhang K*, Harada Y, Wei X, Shukla D, Rajendran A, Tawansy K, Bedell M, Lim S, Shaw PX, He X*, Yang Z* (2011). An essential role of the cysteine-rich domain of FZD4 in Norrin/Wnt signaling and familial exudative vitreoretinopathy. *J Biol Chem.* 25;286(12):10210-5.
110. Luo H, Hu X, Liu X, Ma X, Guo W, Qiu C, Wang Y, Wang Q, Zhang X, Zhang W, Hannum G, Zhang K, Liu X, Li T (2012). Hair cortisol level as a biomarker for altered hypothalamic-pituitary-adrenal activity in female adolescents with posttraumatic stress disorder after the 2008 Wenchuan earthquake. *Biol Psychiatry,* 1;72(1):65-9.
111. Jones A, Kumar S, Zhang N, Tong Z, Yang JH, Watt C, Anderson J, Amrita, Fillerup H, McCloskey M, Luo L, Yang Z, Ambati B, Marc R, Oka C, **Zhang K**, Fu Y. (2011). Increased expression of multifunctional serine protease, HTRA1, in retinal pigment epithelium induces polypoidal choroidal vasculopathy in mice. *Proc Natl Acad Sci U S A.* 2011 Aug 30;108(35):14578-83. Epub 2011 Aug 15.
112. Carbone MA, Chen Y, Hughes GA, Weinreb RN, Zabriskie NA, **Zhang K**, Anholt RR. Genes of the unfolded protein response pathway harbor risk alleles for primary open angle glaucoma. *PLoS One.* 2011;6(5):e20649. Epub 2011 May 31
113. Nacev BA, Low WK, Huang Z, Su TT, Su Z, Alkuraya H, Kasuga D, Sun W, Träger M, Braun M, Fischer G, **Zhang K**, Liu JO. A calcineurin-independent mechanism of angiogenesis inhibition by a nonimmunosuppressive cyclosporin A analog. *J Pharmacol Exp Ther.* 2011 Aug;338(2):466-75. Epub 2011 May 11.
114. Zhang L, Lim SL, Du H, Zhang M, Kozak I, Hannum G, Wang X, Ouyang H, Hughes G, Zhao L, Zhu X, Lee C, Su Z, Zhou X, Shaw R, Geum D, Wei X, Zhu J, Ideker T, Oka C, Wang N, Yang Z, Shaw PX, **Zhang K**. HTRA1 regulates angiogenesis through TF- β family member GDF6. *J Biol Chem.* 2012 Jan 6;287(2):1520-6. Epub 2011 Nov 2.
115. Sun F, Park KK, Belin S, Wang D, Lu T, Chen G, **Zhang K**, Yeung C, Feng G, Yankner BA, He Z. (2011). Sustained axon regeneration induced by co-deletion of PTEN and SOCS3. *Nature* 480:372-375.
116. Harkewicz R, Du H, Tong Z, Alkuraya H, Bedell M, Sun W, Wang X, Hsu YH, Esteve-Rudd J, Hughes G, Su Z, Zhang M, Lopes VS, Molday RS, Williams DS, Dennis EA, **Zhang K**. Essential role of ELOVL4 in very long chain fatty acid synthesis and retinal function. *J Biol Chem.* 2012 Mar 30;287(14):11469-80. Epub 2011 Dec 24.
117. Shaw P, Zhang L, Zhang M, Du H, Zhao L, Lee C, Grob S, Lim SL, Hughes G, Lee J, Bedell M, Nelson MH, Lu F, Krupa M, Luo J, Ouyang H, Tu Z, Su Zhiguang, Zhu J, Wei X, Feng Z, Duan Y, Yang Z, Ferreyra H, Bartsch DU, Kozak I, Zhang L, Lin F, Sun H, Feng H, **Zhang K**. Complement factor H genotypes impact risk of age-related macular degeneration by interaction with oxidized phospholipids. *PNAS* 2012 109: 13757-13762.
118. Pasquale LR, Loomis SJ, Kang JH, Yaspan BL, Abdrabou W, Budenz DL, Chen TC, Delbono E, Friedman DS, Gaasterland D, Gaasterland T, Grosskreutz CL, Lee RK, Lichter PR, Liu Y, McCarty CA, Moroi SE, Olson LM, Realini T, Rhee DJ, Schuman JS, Singh K, Vollrath D, Wollstein G, Zack DJ, Allingham RR, Pericak-Vance MA, Weinreb RN, **Zhang K**, Hauser MA, Richards JE, Haines JL, Wiggs JL. CDKN2B-AS1 Genotype-Glaucoma Feature Correlations in Primary Open-Angle Glaucoma Patients From the United States. *Am J Ophthalmol.* 2013 Feb;155(2):342-353.e5.
119. Wiggs JL, Hauser MA, Abdrabou W, Allingham RR, Budenz DL, Delbono E, Friedman DS, Kang JH, Gaasterland D, Gaasterland T, Lee RK, Lichter PR, Loomis S, Liu Y, McCarty C, Medeiros FA, Moroi SE, Olson LM, Realini A, Richards JE, Rozsa FW, Schuman JS, Singh K,

- Stein JD, Vollrath D, Weinreb RN, Wollstein G, Yaspan BL, Yoneyama S, Zack D, **Zhang K**, Pericak-Vance M, Pasquale LR, Haines JL. The NEIGHBOR Consortium Primary Open-Angle Glaucoma Genome-wide Association Study: Rationale, Study Design, and Clinical Variables. *J Glaucoma*. 2012 Jul 23. [Epub ahead of print]
120. Ulmer M, Li J, Yaspan BL, Ozel AB, Richards JE, Moroi SE, Hawthorne F, Budenz DL, Friedman DS, Gaasterland D, Haines J, Kang JH, Lee R, Lichter P, Liu Y, Pasquale LR, Pericak-Vance M, Realini A, Schuman JS, Singh K, Vollrath D, Weinreb R, Wollstein G, Zack DJ, **Zhang K**, Young T, Allingham RR, Wiggs JL, Ashley-Koch A, Hauser MA. Genome-wide analysis of central corneal thickness in primary open-angle glaucoma cases in the NEIGHBOR and GLAUGEN consortia. *Invest Ophthalmol Vis Sci*. 2012 Jul 3;53(8):4468-74.
121. Wiggs JL, Yaspan BL, Hauser MA, Kang JH, Allingham RR, Olson LM, Abdrabou W, Fan BJ, Wang DY, Brodeur W, Budenz DL, Caprioli J, Crenshaw A, Crooks K, Delbono E, Doheny KF, Friedman DS, Gaasterland D, Gaasterland T, Laurie C, Lee RK, Lichter PR, Loomis S, Liu Y, Medeiros FA, McCarty C, Mirel D, Moroi SE, Musch DC, Realini A, Rozsa FW, Schuman JS, Scott K, Singh K, Stein JD, Trager EH, Vanveldhuisen P, Vollrath D, Wollstein G, Yoneyama S, **Zhang K**, Weinreb RN, Ernst J, Kellis M, Masuda T, Zack D, Richards JE, Pericak-Vance M, Pasquale LR, Haines JL. (2012). Common variants at 9p21 and 8q22 are associated with increased susceptibility to optic nerve degeneration in glaucoma. *PLoS Genet*. 8(4):e1002654. Epub 2012 Apr 26.
122. Deng WT, Dinculescu A, Li Q, Boye SL, Li J, Gorbatyuk MS, Pang J, Chiodo VA, Matthes MT, Yasumura D, Liu L, Alkuraya FS, **Zhang K**, Vollrath D, LaVail MM, Hauswirth WW. (2012). Tyrosine-mutant AAV8 delivery of human MERTK provides long-term retinal preservation in RCS rats. *Invest Ophthalmol Vis Sci*. 53(4):1895-904.
123. Fang RH, Chen KN, Aryal S, Hu CM, **Zhang K**, Zhang L. (2012). Large-scale synthesis of lipid-polymer hybrid nanoparticles using a multi-inlet vortex reactor. *Langmuir*. 39:13824-9.
124. Zhao J, Sun W, Cho HM, Ouyang H, Li W, Lin Y, Do J, Zhang L, Ding S, Liu Y, Lu P, **Zhang K**. (2013). Integration and long distance axonal regeneration in CNS from transplanted primitive neural stem cells. *J Biol Chem*. 288(1):164-8. doi: 10.1074/jbc.M112.433607.
125. Zhuo Y, Luo H, Zhang K. (2012). Leber hereditary optic neuropathy and oxidative stress. *Proc Natl Acad Sci U S A*. 109(49):19882-3.
126. Hannum G, Guinney J, Zhao L, Zhang L, Hughes G, Sadda S, Klotzle B, Bibikova M, Fan JB, Gao Y, Deconde R, Chen M, Rajapakse I, Friend S, Ideker T, **Zhang K**. (2013). Genome-wide Methylation Profiles Reveal Quantitative Views of Human Aging Rates. *Mol Cell*, 49:359-67.
127. Xue, Y-C., Ouyang, K., Huang, J., Zhou, Y., Ouyang, H., Li, H., Wang, G., Wu, Q., Wei, C., Bi, Y., Jiang, L., Cai, Z., Sun, H., **Zhang, K.**, Zhang, Y., Chen, J., and Fu, X-D. (2012) Direct conversion of fibroblasts to neurons by reprogramming PTB-regulated microRNA circuits. *Cell* 152:82-96.
128. Du H, Sun X, Guma M, Luo J, Ouyang H, Zhang X, Zeng J, Quach J, Nguyen DH, Shaw PX, Karin M, Zhang K. (2013). JNK inhibition reduces apoptosis and neovascularization in a murine model of age-related macular degeneration. *Proc Natl Acad Sci U S A*. 110:2377-82.
129. Lu, B., C. Morgans, S. Girman, J. Luo, J. Zhao, H. Du, S. Lim, S. Ding, C. Svendsen, **K. Zhang**, and S. Wang (2013). Neural stem cells derived by small molecules preserve vision. *Translational Vision Science & Technology*. T: January 2013, Vol. 2, No. 1.
130. Zhao, L, Grob, S, Avery, Kimura, Pieramici, D, Lee, J, Rabena, M, Hughes, G, Ortiz, S, Tornambe, P, Goldbaum, M, Ferreyra, H, Kozak, I, and **Zhang, K.**(2013). Common Variant in VEGFA and Response to Anti-VEGF Therapy for Exudative Age-Related Macular Degeneration. *Current Molecular Medicine*. 13, 929-34.
131. Pasquale LR, Loomis SJ, Weinreb RN, Kang JH, Yaspan BL, Bailey JC, Gaasterland D, Gaasterland T, Lee RK, Scott WK, Lichter PR, Budenz DL, Liu Y, Realini T, Friedman DS, McCarty CA, Moroi SE, Olson L, Schuman JS, Singh K, Vollrath D, Wollstein G, Zack DJ, Brilliant M, Sit AJ, Christen WG, Fingert J, Kraft P, **Zhang K**, Allingham RR, Pericak-Vance MA, Richards JE, Hauser MA, Haines JL, Wiggs JL. (2013). Estrogen pathway polymorphisms

- in relation to primary open angle glaucoma: An analysis accounting for gender from the United States. *Mol Vis*. 19:1471-81.
132. Zhou J, Wang D, Zhang J, Zhang M, Lu F, Qiu G, Zhao L, Nguyen DH, Luo H, Cao G, Zhang W, Jiang W, Li G, **Zhang K**, Zhang M, Su Z. (2013). RAD51 gene is associated with advanced age-related macular degeneration in Chinese population. *Clin Biochem*. pii: S0009-9120(13)00335-4. doi: 10.1016/j.clinbiochem.2013.07.002. [Epub ahead of print]
133. Nguyen DH, Luo J, **Zhang K**, Zhang M. Current therapeutic approaches in neovascular age-related macular degeneration. *Discov Med*. 2013 Jun;15(85):343-8.
134. Rofagha S, Bhisitkul RB, Boyer DS, Sadda SR, **Zhang K**; SEVEN-UP Study Group. (2013). Seven-Year Outcomes in Ranibizumab-Treated Patients in ANCHOR, MARINA, and HORIZON: A Multicenter Cohort Study (SEVEN-UP). Seven-Year Outcomes in Ranibizumab-Treated Patients in ANCHOR, MARINA, and HORIZON: A Multicenter Cohort Study (SEVEN-UP). *Ophthalmology*. pii: S0161-6420(13)00331-X. doi: 10.1016/j.ophtha.2013.03.046. [Epub ahead of print]
135. Zhu J, Nguyen D, Ouyang H, Zhang XH, Chen XM, **Zhang K**. (2013). Inhibition of RhoA/Rho-kinase pathway suppresses the expression of extracellular matrix induced by CTGF or TGF- β in ARPE-19. *Int J Ophthalmol*. 6(1):8-14. doi: 10.3980/j.issn.2222-3959.2013.01.02. Epub 2013 Feb 18.
136. Fritsche LG, Chen W, Schu M, Yaspan BL, Yu Y, Thorleifsson G, Zack DJ, Arakawa S, Cipriani V, Ripke S, Igo RP Jr, Buitendijk GH, Sim X, Weeks DE, Guymer RH, Merriam JE, Francis PJ, Hannum G, Agarwal A, Armbrecht AM, Audo I, Aung T, Barile GR, Benchaboune M, Bird AC, Bishop PN, Branham KE, Brooks M, Brucker AJ, Cade WH, Cain MS, Campochiaro PA, Chan CC, Cheng CY, Chew EY, Chin KA, Chowers I, Clayton DG, Cojocaru R, Conley YP, Cornes BK, Daly MJ, Dhillon B, Edwards AO, Evangelou E, Fagerness J, Ferreyra HA, Friedman JS, Geirsdottir A, George RJ, Gieger C, Gupta N, Hagstrom SA, Harding SP, Haritoglou C, Heckenlively JR, Holz FG, Hughes G, Ioannidis JP, Ishibashi T, Joseph P, Jun G, Kamatani Y, Katsanis N, Keilhauer C, Khan JC, Kim IK, Kiyohara Y, Klein BE, Klein R, Kovach JL, Kozak I, Lee CJ, Lee KE, Lichtner P, Lotery AJ, Meitinger T, Mitchell P, Mohand-Saïd S, Moore AT, Morgan DJ, Morrison MA, Myers CE, Naj AC, Nakamura Y, Okada Y, Orlin A, Ortube MC, Othman MI, Pappas C, Park KH, Pauer GJ, Peachey NS, Poch O, Priya RR, Reynolds R, Richardson AJ, Ripp R, Rudolph G, Ryu E, Sahel JA, Schaumberg DA, Scholl HP, Schwartz SG, Scott WK, Shahid H, Sigurdsson H, Silvestri G, Sivakumaran TA, Smith RT, Sobrin L, Souied EH, Stambolian DE, Stefansson H, Sturgill-Short GM, Takahashi A, Tosakulwong N, Truitt BJ, Tsironi EE, Uitterlinden AG, van Duijn CM, Vijaya L, Vingerling JR, Vithana EN, Webster AR, Wichmann HE, Winkler TW, Wong TY, Wright AF, Zelenika D, Zhang M, Zhao L, **Zhang K**, Klein ML, Hageman GS, Lathrop GM, Stefansson K, Allikmets R, Baird PN, Gorin MB, Wang JJ, Klaver CC, Seddon JM, Pericak-Vance MA, Iyengar SK, Yates JR, Swaroop A, Weber BH, Kubo M, Deangelis MM, Léveillard T, Thorsteinsdottir U, Haines JL, Farrer LA, Heid IM, Abecasis GR; AMD Gene Consortium. (2013). Seven new loci associated with age-related macular degeneration. *Nat Genet*. 45(4):433-9, 439e1-2. doi: 10.1038/ng.2578. Epub 2013 Mar 3.
137. Ouyang H, Zhuo Y, **Zhang K**. (2013). WNT signaling in stem cell differentiation and tumor formation. *J Clin Invest*. 123(4):1422-4.
138. Hu CM, Fang RH, Luk BT, Chen KN, Carpenter C, Gao W, **Zhang K**, Zhang L. (2013). 'Marker-of-self' functionalization of nanoscale particles through a top-down cellular membrane coating approach. *Nanoscale*. 5(7):2664-8.
139. Helgason H, Sulem P, Duvvari MR, Luo H, Thorleifsson G, Stefansson H, Jonsdottir I, Masson G, Gudbjartsson DF, Walters GB, Magnusson OT, Kong A, Rafnar T, Kiemeney LA, Schoenmaker-Koller FE, Zhao L, Boon CJ, Song Y, Fauser S, Pei M, Ristau T, Patel S, Liakopoulos S, van de Ven JP, Hoyng CB, Ferreyra H, Duan Y, Bernstein PS, Geirsdottir A, Helgadottir G, Stefansson E, den Hollander AI, **Zhang K**, Jonasson F, Sigurdsson H,

- Thorsteinsdottir U, Stefansson K. (2013). A rare nonsynonymous sequence variant in C3 is associated with high risk of age-related macular degeneration. *Nat Genet.* 45(11):1371-4.
140. Zhan X, Larson DE, Wang C, Koboldt DC, Sergeev YV, Fulton RS, Fulton LL, Fronick CC, Branham KE, Bragg-Gresham J, Jun G, Hu Y, Kang HM, Liu D, Othman M, Brooks M, Ratnapriya R, Boleda A, Grassmann F, von Strachwitz C, Olson LM, Buitendijk GH, Hofman A, van Duijn CM, Cipriani V, Moore AT, Shahid H, Jiang Y, Conley YP, Morgan DJ, Kim IK, Johnson MP, Cantsilieris S, Richardson AJ, Guymer RH, Luo H, Ouyang H, Licht C, Pluthero FG, Zhang MM, **Zhang K**, Baird PN, Blangero J, Klein ML, Farrer LA, DeAngelis MM, Weeks DE, Gorin MB, Yates JR, Klaver CC, Pericak-Vance MA, Haines JL, Weber BH, Wilson RK, Heckenlively JR, Chew EY, Stambolian D, Mardis ER, Swaroop A, Abecasis GR. Identification of a rare coding variant in complement 3 associated with age-related **macular degeneration**. *Nat Genet.* 2013 Nov;45(11):1375-9. doi: 10.1038/ng.2758. Epub 2013 Sep 15.
141. Luo J, Zhao L, Chen AY, Zhang X, Zhu J, Zhao J, Ouyang H, Luo H, Song Y, Lee J, Patel SH, Shaw PX, Sadda S, Zhuo Y, Rosenfeld MG, **Zhang K**. (2013). TCF7L2 Variation and Proliferative Diabetic Retinopathy. *Diabetes.* 62(7):2613-7.
142. Zhao L, Patel SH, Pei J, **Zhang K**. (2013). Antagonizing Wnt pathway in diabetic retinopathy. *Diabetes.* 62(12):3993-5.
143. X. Qu, W. Zhu, S. Huang, J. Y. Li, S. Chien, K. Zhang, S.C. Chen, (2013). Relative impact of uniaxial alignment vs. form-induced stress on differentiation of human adipose derived stem cells. *Biomaterials,* 11:9812-9818.
144. Luo J, Baranov P, Patel S, Ouyang H, Quach J, Wu F, Qiu A, Luo H, Hicks C, Zeng J, Zhu J, Lu J, Sfeir N, Wen C, Zhang M, Reade V, Patel S, Sinden J, Sun X, Shaw P, Young M, **Zhang K**. Human Retinal Progenitor Cell Transplantation Preserves Vision. *J Biol Chem.* 2014 Jan 9. [Epub ahead of print]
145. Garcia Filho CA, Yehoshua Z, Gregori G, Nunes RP, Penha FM, Moshfeghi AA, **Zhang K**, Feuer W, Rosenfeld PJ. Change in drusen volume as a novel clinical trial endpoint for the study of complement inhibition in age-related macular degeneration. *Ophthalmic Surg Lasers Imaging Retina.* 2014 Jan-Feb;45(1):18-31.
146. Loomis SJ, Kang JH, Weinreb RN, Yaspan BL, Cooke Bailey JN, Gaasterland D, Gaasterland T, Lee RK, Lichter PR, Budenz DL, Liu Y, Realini T, Friedman DS, McCarty CA, Moroi SE, Olson L, Schuman JS, Singh K, Vollrath D, Wollstein G, Zack DJ, Brilliant M, Sit AJ, Christen WG, Fingert J, Kraft P, **Zhang K**, Allingham RR, Pericak-Vance MA, Richards JE, Hauser MA, Haines JL, Pasquale LR, Wiggs JL. (2014). Association of CAV1/CAV2 genomic variants with primary open-angle glaucoma overall and by gender and pattern of visual field loss. *Ophthalmology.* 121:508-16.
147. Wang D, Zhou J, Hou X, Nguyen DH, Cao G, Li G, Qiu G, **Zhang K**, Zhang M, Su Z. CETP Gene may be Associated with Advanced Age-related Macular Degeneration in the Chinese Population. *Ophthalmic Genet.* 2014 Feb 5. [Epub ahead of print]
148. Yu FX, Luo J, Mo JS, Liu G, Kim YC, Meng Z, Zhao L, Peyman G, Ouyang H, Jiang W, Zhao J, Chen X, Zhang L, Wang CY, Bastian BC, Zhang K*, Guan KL*. Cancer Cell (2014). Mutant Gq/11 promote uveal melanoma tumorigenesis by activating YAP. 25:822-30. *co-corresponding authors.
149. Zhao JJ, Ouyang H, Luo J, Patel S, Xue Y, Quach J, Sfeir N, Zhang M, Fu X, Ding S, Chen S, **Zhang K**. Induction of retinal progenitors and neurons from mammalian Muller glia under defined conditions. *J Biol Chem.* 2014 Feb 12. [Epub ahead of print]
150. Wang F, Wang H, Tuan HF, Nguyen DH, Sun V, Keser V, Bowne SJ, Sullivan LS, Luo H, Zhao L, Wang X, Zaneveld JE, Salvo JS, Siddiqui S, Mao L, Wheaton DK, Birch DG, Branham KE, Heckenlively JR, Wen C, Flagg K, Ferreyra H, Pei J, Khan A, Ren H, Wang K, Lopez I, Qamar R, Zenteno JC, Ayala-Ramirez R, Buentello-Volante B, Fu Q, Simpson DA, Li Y, Sui R, Silvestri G, Daiger SP, Koenekoop RK, **Zhang K***, Chen R*. (2014) Next generation sequencing-based molecular diagnosis of retinitis pigmentosa: identification of a novel genotype-

phenotype correlation and clinical refinements. *Hum Genet.* 133(3):331-45. *co-corresponding authors.

151. Yehoshua Z, Alexandre de Amorim Garcia Filho C, Nunes RP, Gregori G, Penha FM, Moshfeghi AA, **Zhang K**, Sadda S, Feuer W, Rosenfeld PJ. (2014). Systemic Complement Inhibition with Eculizumab for Geographic Atrophy in Age-Related Macular Degeneration: The COMPLETE Study. *Ophthalmology.* 121(3):693-701.
152. Gou, M, Qu, X, Zhu, W, Xiang, M, Yang, J, **Zhang, K**, Wei Y & Chen S (2014). Bio-inspired detoxification using 3D-printed hydrogel nanocomposites. *Nature Communications*, 5:3774.
153. Liao C, Yin, A, Peng CF, Fu F, Yang JX, Li R, Chen YY, Luo DH, Zhang YL, Ou YM, Li J, Wu J, Mai MQ, Hou R, Wu F, Luo H, Li DZ, Liu, HL, Zhang XZ, **Zhang K**. Noninvasive prenatal diagnosis of common aneuploidies by semiconductor sequencing, *PNAS*, 111:7415-20.
154. Ouyang, H, Xue, Y, Lin, Y, Zhang, X, Xi, L, Patel, S, Gen Li, Jing Luo, Wei Jiang, Yang Y, Li, H, Zhang, M, Cai, G, Yeh, E, Pei, M, Cao, G, Zhang, L, Yu, B, Chen, S, Fu, XD, Liu, Y, **Zhang K**. (2014). WNT7A and PAX6 define corneal epithelium homeostasis and pathogenesis. *Nature* 511:358-61.
155. Chi W, Li F, Chen H, Wang Y, Zhu Y, Yang X, Zhu J, Wu F, Ouyang H, Ge J, Weinreb RN, **Zhang K**, Zhuo Y. (2014). Caspase-8 promotes NLRP1/NLRP3 inflammasome activation and IL-1 β production in acute glaucoma. *Proc Natl Acad Sci U S A.* 111:11181-6.
156. Wang F, Wang Y, Zhang B, Zhao L, Lyubasyuk V, Wang K, Xu M, Li Y, Wu F, Wen C, Bernstein PS, Lin D, Zhu S, Wang H, **Zhang K**, Chen R. 2014. A missense mutation in HK1 leads to autosomal dominant retinitis pigmentosa. *Invest Ophthalmol Vis Sci.* 55:7159-64.
157. Kang X, Xu H, Teng S, Zhang X, Deng Z, Zhou L, Zuo P, Liu B, Liu B, Wu Q, Wang L, Hu M, Dou H, Liu W, Zhu F, Li Q, Guo S, Gu J, Lei Q, Lü J, Mu Y, Jin M, Wang S, Jiang W, Liu K, Wang C, Li W, **Zhang K**, Zhou Z. 2014. Dopamine release from transplanted neural stem cells in Parkinsonian rat striatum in vivo. *Proc Natl Acad Sci U S A.* 111:15804-9.
158. Copp JA, Fang RH, Luk BT, Hu CM, Gao W, **Zhang K**, Zhang L. 2014. Clearance of pathological antibodies using biomimetic nanoparticles. *Proc Natl Acad Sci U S A.* 111:13481-6.
159. Huu VA, Luo J, Zhu J, Zhu J, Patel S, Boone A, Mahmoud E, McFearin C, Olejniczak J, de Gracia Lux C, Lux J, Fomina N, Huynh M, **Zhang K**, Almutairi A. 2015. Light-responsive nanoparticle depot to control release of a small molecule angiogenesis inhibitor in the posterior segment of the eye. *J Control Release.* 200:71-7.
160. Bhisitkul RB, Mendes TS, Rofagha S, Enanoria W, Boyer DS, Sadda SR, **Zhang K**. Macular Atrophy Progression and 7-Year Vision Outcomes in Subjects From the ANCHOR, MARINA, and HORIZON Studies: the SEVEN-UP Study. *Am J Ophthalmol.* 159:915-924.
161. Huang LZ, Li YJ, Xie XF, Zhang JJ, Cheng CY, Yamashiro K, Chen LJ, Ma XY, Cheung CM, Wang YS, Zhang CF, Bai YJ, Hou J, Chen XL, Qi Y, Li SS, Sun YY, Mei JP, Cheng Y, Yu WZ, Hu XB, Zhuang FF, Fan L, Lu Y, Sun XH, Zhu XJ, Shen DF, Chan CC, Zhao MW, Yoshimura N, Pang CP, Wong TY, Khor CC, **Zhang K**, Zhou P, Li XX. 2015. Whole-exome sequencing implicates UBE3D in age-related macular degeneration in East Asian populations. *Nat Commun.* 6:6687
162. Salvo J, Lyubasyuk V, Xu M, Wang H, Wang F, Nguyen D, Wang K, Luo H, Wen C, Shi C, Lin D, **Zhang K**, Chen R. 2015. Next-generation sequencing and novel variant determination in a cohort of 92 familial exudative vitreoretinopathy patients. *Invest Ophthalmol Vis Sci.* 56:1937-46.
163. Qu, X, Zhu, W, Huang, S, Li, J. Y. Chien, S, **Zhang, K**, Chen, S.C. (2013), “Relative impact of uniaxial alignment vs. form-induced stress on differentiation of human adipose derived stem cells”, *Biomaterials*, 34 (no. 38), pp. 9812-9818.
164. Ling Zhao L, Xiang-Jun Chen, XJ, Zhu, J, Xi, YB, Yang, X, Hu, LD, Ouyang, H, Patel, SH, Jin, X, Lin, D, Wu, F, Flagg, K, Cai H, Li, G, Cao, G, Lin, Y, Chen, D, Wen, C, Chung, C, Wang, YD, Qiu, A, Yeh, E, Wang, W, Hu, X, Grob, S, Abagyan, R, Su, Z, Tjondro, HC, Zhao, XJ, Luo, H, Rui Hou, R, Perry, JP, Gao, W, Kozak, I, Granet, D, Li, Y, Sun, XD, Wang, J,

- Zhang, L, Liu, Y, Yan, YB, and **Zhang, K.** Lanosterol reverses protein aggregation in cataract. Nature 523:607-11; also see Nature News & Views
165. Skowronska-Krawczyk D, Zhao L, Zhu J, Weinreb R, Luo J, Flagg K, Patel S, Wen C, Krupa M, Luo H, Ouyang H, Lin D, Wang W, Li G, Xu Y, Cao G, Li O, Chung C, Yeh E, Jafari M, Ai M, Zhong Z, Shi W, Zheng L, Krawczyk M, Chen D, Shi C, Zin C, Zhu J, Mellon P, Gao W, Zhang L, Sun X, Zhong S, Zhuo Y, Rosenfeld M, Liu Y, **Zhang K.** (2015). P16/INK4A up-regulation mediated by Six6 defines retinal ganglion cell pathogenesis in glaucoma. Mol Cell. 2015 Sept 17, 59:1-10.
166. Hu, CJ, Fang, RH, Wang, KC, Luk, BT, Thamphiwatana, S, Dehaini, D, Nguyen, P, Angsantikul, P, Wen, CH, Kroll, AV, Carpenter, C, Ramesh, M, Qu, V, Patel, S, Zhu, J, Hofman, FM, Chen, TC, Gao, W, **Zhang, K***, Chien, S*, Liangfang Zhang, L*. Nanoparticle biointerfacing via platelet membrane cloaking. Nature, 2015 Sep 16. doi: 10.1038/nature15373. *co-corresponding authors.

II. REVIEW ARTICLES

1. Hunt DM, Wilkie SE, Newbold R, Deery E, Warren MJ, Bhattacharya SS, **Zhang K.** (2004). Dominant cone and cone-rod dystrophies: functional analysis of mutations in retGC1 and GCAP1. *Novartis Found Symp*, 255, 37-49; discussion 49-50, 177-8.
2. Patel, S, Chen H, Tinkham, NH, **Zhang, K**, (2008). Genetic susceptibility of Diabetic retinopathy. *Current Diabetic Report*, 8, in press
3. Garibaldi D, **Zhang K.** (1999). Molecular genetics of macular degeneration. *Intl Ophthal Clinics*, 39, 117.
4. **Zhang K**, Yeon H, Han M, Donoso LA. (1996). Molecular genetics of macular dystrophies. *Br J Ophthalmol*, 80(11), 1018-22.
5. **Zhang K**, Nguyen E, Crandall A, Donoso LA. (1995). Genetic and molecular studies of macular dystrophies: recent development. *Survey of Ophthalmology*, 40, 51.
6. **Zhang K**, Wang MX, Munier F, Roth D, Mastrangelo D, Chung S, Shields JA, Donoso LA. (1993). Molecular genetics of retinoblastoma. *Int Ophthalmol Clin*, 33(3), 53-65.
7. Chen Y, Bedell M, **Zhang K** (2010) Age-related macular degeneration: genetic and environmental factors of disease. Mol Interv. 2010 Oct;10(5):271-81. Review.
8. Molday, RS and Zhang, K. Defective lipid transport and biosynthesis in recessive and dominant Stargardt macular degeneration. Prog Lipid Res. 2010 Oct;49(4):476-92. Epub 2010 Jul 13.
9. Bedell M, Harkewicz R, Wang X, Zhang K. (2010). Focus on molecules: ELOVL4. Exp Eye Res.:476-7.
10. Du H, Lm SL, Grob S, Zhang K. Induced pluripotent stem cell therapies for geographic atrophy of age-related macular degeneration. Semin Ophthalmol. 2011 May;26(3):216-24.
11. **Zhang, K** and Ding S. (2011). Stem cells and eye development. N Eng J Med. 365:370-3.
12. Huang PS, Ho PT, **Zhang K.** A proposal: a comprehensive platform to characterize tumors in Chinese and improve success in cancer drug discovery and development. Chin J Cancer. 2011 Jun;30(6):363-7.
13. **Zhang K**, Zhang L, and Weinreb, RN (2012). Ophthalmic drug discovery: novel targets and mechanisms. Nature Review Drug Discovery 11, 541-559
14. Tuo J, Grob S, **Zhang K**, Chan CC (2012). Genetics of immunological and inflammatory components in age-related macular degeneration. Ocul Immunol Inflamm. 2012 Feb;20(1):27-36.

III. BOOKs and CHAPTERS

1. Cameron DJ, Yang Z, Tong Z, Zhao Y, Praggastis A, Brinton E, Harmon J, Chen Y, Pearson E, Bernstein PS, Brinton G, Li X, Jorgensen A, Schneider S, Gibbs D, Chen H, Wang C, Howes K, Camp NJ, **Zhang K.** (2008) 10q26 is associated with increased risk of age-related macular degeneration in the Utah population. In Anderson RE, LaVail MM, Hollyfield JG (Eds.), *Recent Advances In Retinal Degeneration*. New York: Plenum Publishing Corporation.
2. Chen H, Yang Z, Zhao P, **Zhang K** (2008). Genetics of AMD. in Kaiser PK, Sears J, Singh R (Eds), *Macular Degeneration – State of the Art*. London, Remedica Medical Education and Publishing Limited (in press)
3. Moshfeghi DM, Yang Z, Faulkner ND, Karan G, Hirumalaichary S, Jiang L, Tsai T, **Zhang K.** (2005). Choroidal Neovascularization in Patients with Adult-onset Foveomacular Dystrophy Caused by Mutations in the RDS/Peripherin Gene: Report of 3 Cases. In Hollyfield JG, Anderson RE, LaVail MM (Eds.), *Retinal Degeneration: Clinical and Laboratory Applications*. New York: Plenum Publishing Corporation.
4. Katz BJ, Yang Z, Payne M, **Zhang K.** (2005). Fundus Appearance of Choroideremia. In Hollyfield JG, Anderson RE, LaVail MM (Eds.), *Retinal Degeneration: Clinical and Laboratory Applications*. New York: Plenum Publishing Corporation.
5. **Zhang K**, Carr RE, Sunness JS. (2005). Hereditary choroidal dystrophies. In Ryan SJ (Ed.), *Retina*.
6. Hu J, Payne M, **Zhang K.** (2005). Intravitreal Injection of Triamcinolone Acetonide for Macular Edema Due to Retinitis Pigmentosa and Other Retinal Diseases. In Hollyfield JG, Anderson RE, LaVail MM (Eds.), *Retinal Degeneration: Clinical and Laboratory Applications*. New York: Plenum Publishing Corporation.
7. Sauve Y, Karan G, Yang Z, Li C, Hu J, **Zhang K.** (2005). Treatment with Carbonic Anhydrase Inhibitors Depresses Electroretinogram Responsiveness in Mice. In Hollyfield JG, Anderson RE, LaVail MM (Eds.), *Retinal Degeneration: Clinical and Laboratory Applications*.
8. **Zhang K**, Carr RE, Sunness JS. (2001). Hereditary choroidal dystrophies. In Ryan SJ (Ed.), *Retina*.
9. Li Y, Lam L, Yu Z, Yang Z, Bither P, **Zhang K.** (2000). Clinical spectrum of autosomal dominant Stargardt's macular dystrophy with a mutation in ELOVL4. In Hollyfield JG, Anderson RE, LaVail MM (Eds.), *Retinal Degeneration: Clinical and Laboratory Applications*. New York: Plenum Publishing Corporation.
10. Garibaldi GC, Yang Z, Li Y, Yu Z, **Zhang K.** (2000). The role of fatty acids in the pathogenesis of retinal degeneration. In Hollyfield JG, Anderson RE, LaVail MM (Eds.), *Retinal Degeneration: Clinical and Laboratory Applications*. New York: Plenum Publishing Corporation.
11. Zhang, K. Ed. Ophthalmic Drug Discovery. World Scientific Publishing, in preparation.
12. Liu, Y and Zhang, K. Ed. Ocular Stem Cell Therapy. World Scientific Publishing, in preparation.

IV. OTHER (Commentary/Letters/Editorials/Case Reports/Video/Film)

Patents

- 1 **Zhang K**, Petrukhin, K; Li, W. ELOVL4 gene. Patent No. 2067809999. Washington, D.C.:U.S. Patent and Trademark Office.

V. ORAL PRESENTATIONS

A. Invited/Visiting Professor Presentations International

- 2014 ARVO Invited Symposium
- 2013 ARVO Invited Symposium
- 2013 Plenary Lecture, International Society of Ocular Cell Biology conference, Oxford, England
- 2013 Angiogenesis, Exudation and degeneration, Miami, FL
- 2012 Cold Spring harbor Asia Stem Cell Meeting
- 2012 NIH Director's Fund Regenerative Medicine Symposium, Bethesda, MD
- 2012 International Symposium of Age Related Macular Degeneration, Beijing
- 2012 Asian Pacific Academy of Ophthalmology Annual meeting, Pusan, Korea
- 2012 Annual Meeting of Chinese Ophthalmology Society, Nanjing, China
- 2012 Annual Meeting of Chinese Retina Society, Wuhan, China
- 2012 Annual Meeting of Chinese Ophthalmology Society, Nanjing, China
- 2012 International Masters of Retina, Dominican Republic
- 2012 Second Symposium of Chinese Research in Vision and Ophthalmology, Tianjin, China
- 2011 ARVO ISOCB Ocular Cell Biology Conference, Vancouver, Canada
- 2011 Annual Meeting of Chinese Ophthalmology Society, Guangzhou, China
- 2011 Glaucoma: Beyond IOP. San Diego, CA
- 2011 International Masters of Retina, Dominican Republic
- 2011 Angiogenesis, Miami, FL
- 2011 Beckman Initiative in Macular Research, Irvine, CA
- 2010 Chinese Ophthalmological Society/Asia Pacific Ophthal. Joint Annual Mtg, Beijing, China
- 2010 Glaucoma Research Foundation, San Francisco, CA
- 2010 Glaucoma: Beyond IOP. San Diego, CA
- 2010 BioRetina Submit, San Francisco
- 2010 Annual Meeting of Chinese Ophthalmology Society, Beijing, China
- 2010 Gordon Conference on Visual System Development, Lucca (Barga), Italy
- 2010 Beckman Initiative in Macular Research, Irvine, CA
- 2010 Angiogenesis, Miami, FL
- 2009 Mentors Lecture, American Society of Retinal Specialists Masters Meeting, Hawaii
- 2009 FASCEB Conference, Snow mass, CO.
- 2009 Beckman Initiative in Macular Research, Irvine, CA
- 2009 International conference on inflammation and Retinal Disease, Greece
- 2009 Annual Meeting of Chinese Ophthalmology Society, Chongqing, China
- 2009 IBC's 5th International Conference on Ocular Angiogenesis and Retinal Degeneration, Las Vegas, NV
- 2009 BioRetina Submit, San Francisco
- 2009 Macula 2009, New York, NY
- 2009 12th Annual Ocular Drug and Surgical Therapy Update Meeting, LA, CA
- 2009 Angiogenesis, Exudation, and Degeneration, Miami, FL
- 2008 International Society of Eye Research, Beijing, China
- 2008 Shanghai International Ophthalmology Symposium, Shanghai, China
- 2008 International Symposium on Retinal Degeneration (Key note speaker, Chengdu, China
- 2008 Macular Vision Research Foundation Symposium, FL
- 2008 World Ophthalmology Congress, Hong Kong, China

- 2008 International Society of Eye Research, Beijing, China
2008 International Society of Ocular Cell Biology, CA
2008 Angiogenesis 2008, FL
2007 International Forum on Vitreoretinal Diseases and Surgery, China
2007 University of Alberta, Canada
2007 Annual Meeting of Chinese Ophthalmology Society, Beijing, China
2007 Chinese Bioscience Symposium, Beijing
2007 Institute of ophthalmology, University College London
2007 Trinity College, Ireland
2007 Angiogenesis 2007, FL
2006 National Eye Institute, Bethesda, MD
2006 Keystone Symposium on Genome Sequence Variation and the Inherited Basis of Common Disease and Complex Traits
2006 Osaka Bioscience Institute, Japan
2006 Annual Meeting of Chinese Ophthalmology Society, Beijing, China
2005 Annual Meeting of Chinese Ophthalmology Society. Beijing, China
2004 Beijing Ophthalmology Symposium.
2003 Institute of Ophthalmology, University College London.
2002 University of Nimjagen, Netherlands.
2000 Singapore National Eye Research Institute, Singapore.

National

- 2012 LCA Conference, Philadelphia
2007 Foundation Fighting Blindness, Orlando, FL
2007 Diabetic Retinopathy Clinical Network Genetics workshop, Baltimore, MD.
2005 Macular Vision Research Foundation Symposium.
2004 Steinbach Macular Degeneration Symposium.
2003 FASCEB Conference.
2002 Steinbach Macular Degeneration Symposium.
2001 III Retina Summit, Cleveland, OH.
2001 7th Great Lake Vision Research Conference, Cleveland, OH.
2000 Foundation Fighting Blindness, Ft. Lauderdale, FL.

Local/Regional

- 2014 Dept of Ophthalmology, SUNY Buffalo
2013 Dept of Ophthalmology, Stanford University
2013 Baylor College of Medicine
2012 Research Day, Keynote speech, University of British Columbia, Vancouver, Canada
2012 Dept of Ophthalmology, Mass Eye & Ear Infirmary and Harvard Med School
2011 Mayo Clinic, MN
2011 Medical College of Wisconsin, Milwaukee
2010 Case Western Reserve University
2009 Schepens Eye Research Institute distinguished lecture
2008 Futterman Memorial Lecture, Dept of Ophthalmology, University of Washington
2007 University of California San Diego, Inaugural Genetics and Genomics in Medicine Seminar Series
2007 Brigham and Women's Hospital/Harvard Medical School, Molecular Medicine Series
2007 Joslin Diabetes Center/Harvard Medical School
2007 Santen, Inc. Inaugural Global Grand Rounds lecture
2007 Genentech, Inc. Ophthalmology conference series

- 2007 Univ. of Kentucky, Dept. of Ophthalmology & Visual Sciences
2003 Oklahoma University, Dept. of Ophthalmology & Visual Sciences
2002 University of Utah, Moran Eye Center.
2002 UCLA, Jules Stein Eye Institute.
2002 Ohio State University, Dept. of Ophthalmology.
1995 University of Colorado, Health Science Center.
1994 Mass. Eye & Ear Infirmary, Harvard Medical School.